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CONTENTS

Sir William Wood on Railways' Task and Resources

SIR WILLIAM WOOD, in an article in the last issue of the *Sunday Express*, emphasised the point already made in our columns, that the introduction of the five-day week in the coal mines may accentuate the wagon shortage because, if six-days' output is produced in five days, the available transport to move it must be greater for the shorter period. He made an appeal for the speedier turn-round of wagons, and said he did not expect that the difficulties which occurred in February and March last year would happen again next winter. Sir William Wood emphasised that British railways are seriously under-equipped for their task. They are carrying far more passengers than the whole of the railways in the United States put together. Last year they moved 20,639 million ton-miles of freight, 27 per cent. more than in 1938, and 29,231 million passenger-miles, 54 per cent. more than in 1938. Because of fewer passenger trains, the extra volume of passengers meant an 86 per cent. increase in the passengers per train. On arrears of maintenance, he said that relating to track represented about two years' work, but supplies of sleepers and rails were barely sufficient to meet current needs; signal maintenance was about 1½ years in arrears.

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C. E. Rooke

A vivid and vivacious officer has been lost to the Colonial railway service by the death, at the age of 55, of Mr. Charles Eustace Rooke, C.M.G. For the short period of two years from 1942 to 1944 he was General Manager of the largest railway in the British Colonial Empire, the Nigerian Railway, which has a mileage of 1,903. It was in that year that the first indications of ill-health compelled him to resign from the General Managership. A reference to the obituary notice on page 131 will show Rooke's extraordinarily varied career. Starting his railway service in 1909 in the Goods Manager's Office of the South Eastern & Chatham Railway, he soon satisfied his ambition to see more of the world, and a year later was successful in obtaining employment on the Argentine North Eastern Railway. Since then he had railway service in India, Uganda, Federated Malay States, Cyprus and Tanganyika. After his retirement from the General Managership of the Nigerian Railway he was engaged on several special missions for the Foreign Office and Colonial Office, and latterly served as Inland Transport Adviser to the Secretary of State for the Colonies, which involved several long missions overseas. He was recently elected a Director of the Nyasaland Central Africa and Trans-Zambesia Railway Companies. Rooke had been seriously ill since early this year. In a letter dated January 19 he wrote us: "I was struck down feeling really ill indeed during the night. The medical orders are that I must give up the Colonial Transport Adviser's job, nor may I do any more tropical inspections or missions, at any rate for a long time and not by air. It was that damn West Africa mission that did it. I was a fool to have gone."

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Uruguay Railways Sale Envisaged

The text of the Anglo-Uruguayan Payments Agreement which has now been published,* includes provision for the release of sterling balances for the purchase of British-owned transport undertakings in Uruguay. It is provided that if Uruguay agrees before the end of 1948 to buy these undertakings, £4 million of the £17 million of Uruguayan sterling balances will be released towards the purchase price, and a further £3 million is to be earmarked for purchases of British-owned public utilities. The present market value of the stocks of the Central Uruguay Railway Company is close on £5 million, but it is provided that the balance of the £17 million, after various deductions have been made, is to be available towards the purchase price of various undertakings and for the repatriation of Uruguay sterling loans; also, £1,500,000 will be rendered convertible in equal yearly instalments from the date of purchase until July, 1951, provided that the purchase is effected before the end of 1948. The Central Uruguay Railway Co. of Monte Video Ltd. operates 950 miles of line, and serves the greater part of the Republic. The Midland Uruguay Railway Co. Ltd.

* "Payments Agreement Between the Government of the United Kingdom and the Government of Uruguay." Cmd. 7172. H.M. Stationery Office. 2d.

and associated lines are controlled by the Central Uruguay Railway. In the exchange of letters between the Uruguayan Economic Mission which recently visited this country and the British Foreign Office, an invitation was extended to the British Government to send a delegation to Uruguay during the present year to study railway transport problems in conjunction with the Uruguayan Government; and this invitation has been accepted.

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Home Railway Traffic Receipts

Home railway traffic receipts of the four main-line railway companies and the L.P.T.B. for the four weeks ended July 13 this year resumed the downward trend, which had been broken by the previous return. The total decline was £1,062,000, or some 3½ per cent., and coal and coke revenues alone showed an increase. This was of £167,000, and went against falls of £782,000 in passenger revenue, and £447,000 in merchandise takings. The aggregate fall in gross receipts for the 28 weeks of the year is now £11,761,000, and of this figure no less than £21,842 has resulted from lesser merchandise revenue. Details of the receipts for the four weeks, and also the aggregate for the 28 weeks, are given in the table below, together with comparisons against 12 months earlier:—

FOUR WEEKS ENDED JULY 13

	1947 £000	1946 £000	+ or − £000	Per cent. + or −
Passenger	17,173	17,955	−782	−4·3
Merchandise ...	7,510	7,957	−447	−5·6
Coal and coke ...	4,216	4,049	+167	+4·1
Total ...	28,899	29,961	−1,062	−3·5

AGGREGATE FOR 28 WEEKS OF THE YEAR

	1947 £000	1946 £000	+ or − £000	Per cent. + or −
Passenger	98,088	104,279	−6,191	−5·9
Merchandise ...	48,354	56,595	−8,241	−14·6
Coal and coke ...	28,973	26,302	+2,671	+10·1
Total ...	175,414	187,176	−11,761	−6·3

On July 1 last year increased fares and charges were brought into effect, and, therefore, for the second half of the four-weekly period, of which details have just been announced, the comparison was on a flat basis.

* * * *

Argentine Railway Deal Meetings

The first of the meetings to approve the scheme of arrangement between the Argentine Government and the British-owned railways in Argentina were held at the end of last week and at the beginning of this. The first batch of meetings, held on July 24, related to the Buenos Ayres Great Southern Railway, and were followed by those of the Bahia Blanca & North Western Railway. On the next day the Buenos Ayres Western Railway meetings were held, and on Tuesday and Wednesday last the Buenos Ayres & Pacific and the Argentine Great Western Railways respectively put the scheme before their stockholders. As will be seen from the summarised report on another page, all the meetings resulted in overwhelming majorities for the boards, although there was some minor criticism by individual stockholders. Sir Montague Eddy, Chairman of the Buenos Ayres Great Southern Railway meetings, said that if the Argentine Government ratified the scheme by the end of September, it was hoped that an interim payment would be made to preference and ordinary stockholders before the end of the year.

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Southern Railway and L.P.T.B. Dividends

In accord with general expectation, the directors of the Southern Railway Company and the members of the London Passenger Transport Board have decided to retain last year's interim payments of their marginal stocks. The Southern Railway announcement states that the estimated net revenue accruing to the company for the first half of this year is sufficient to pay interim dividends of 2½ per cent. on the guaranteed preference and preference stocks, and 2½ per cent. on the preferred ordinary stock, and accordingly these payments will be made. The Railways (Southern Group) Amalgamation Scheme, 1922 (Section 9), provides that this stock is entitled to a dividend each year out of any balance of net revenue available after payment of 5 per cent. on the preferred ordinary stock, and that any such dividend on the deferred stock should be paid annually. Thus, an interim dividend on the deferred ordinary stock cannot be paid at this time. The L.P.T.B. announcement is to the effect that holders of London Transport "C" stock are to receive a half-yearly payment at the rate of 1½ per cent. actual.

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Railway Staff Resignations and Recruitment

An interesting point was made by the Minister of Transport in answer recently to a question in the House of Commons. On July 7 he stated that the number of railway staff who had resigned their employment since the withdrawal of the Essential Work Order was 56,463 up to April 30 last, and he divided this figure into footplate staff and cleaners, 7,127; locomotive shed staff, 2,665; signalmen, 890; guards, 821; shunters, 1,723; goods cartage staff, 2,280; goods handling staff, 7,454; permanent way staff, 6,110; signal and telegraph staff, 585; other conciliation staff, 10,337; railway workshop staff, 9,971; clerical and supervisory staff, 6,500. On July 21 he gave the opposite side of the picture when he was asked to give the figures of those who had joined the railway service between the same dates. The number Mr. Barnes gave was 72,022, divided into conciliation staff, 47,731; workshop staff, 15,529; and clerical and supervisory staff, 8,762. Without allowing for losses by death, retirement, and similar wastage, there has been a net influx of 15,559. In present conditions there is no doubt that the railways could do with many more skilled men, but at least the figures given by Mr. Barnes in the House of Commons do not suggest that railway employment is as unattractive as some would have us believe.

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British Railways Officers' Guild

The British Railways Officers' Guild recently held its second annual meeting; the Master, Mr. L. F. Rowlandson, presided, and members were present representing the four main-line railway companies, the London Passenger Transport Board, and the Railway Clearing House. The Master explained that the Guild had presented a petition to Parliament with a view to the rectification of some of the weaknesses in the Transport Bill, pointing out that the safeguards for existing conditions of service and against the withdrawal of privileges were inadequate, and that there was no basis for compensation, far too much being left in the hands of the Minister to cover by regulations. The petition also sought to ensure that any questions or disputes as to remunerations, conditions of service, and compensation may be determined by a negotiating body or referred to arbitration to an independent tribunal instead of being disposed of finally by the Minister under the powers conferred on him by the Bill. The Guild is making good progress, but there are still many eligible officers who have not given it their support. Any member joining between now and December 31, 1947, will pay half the year's subscription for 1947. The Secretary, Mr. J. J. Tobin, is at 129, Finsbury Pavement, London, E.C.2.

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New Developments in Compressed-Air Brakes

The developments in compressed-air braking which have been made by the Westinghouse Air Brake Company, U.S.A., in recent years, were reviewed in a paper by Mr. C. D. Stewart, Vice-President of the company, and we publish this paper in abridged form elsewhere in this issue. The new devices cover a variety of phases of brake operation, and are evidence of a policy for increasing the comfort of passengers, saving time, and reducing maintenance costs, yet also decreasing weight wherever practicable. The advances in compressed-air braking technique are numerous, but for some time it has been a fixed principle of the Westinghouse Air Brake Company that whenever a new device to improve performance is made available, it must be capable of being installed as an adjunct to the existing standard equipment, and must work in harmony with other vehicles not fitted with the new device, so allowing a gradual conversion to new standards. Great consideration for the user is shown thereby, but adherence to this principle must on many occasions have added to the difficulties to be surmounted by the Westinghouse engineers. The devices dealt

with in Mr. Stewart's review are designed to give faster response with more flexible control, and to permit higher braking forces, while also reducing the possibility of wheel sliding.

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The "Train of Tomorrow"

In the summer of 1944 an idea for a railway coach having a glass observation dome originated with General Motors. A year later, with the object of sounding expert opinion on the practicability of the idea, a model of a train embodying such a feature was shown to more than 350 railway executives from all parts of the United States. Many urged that an experimental train be built, and, being encouraged thus far, General Motors decided to sponsor the project. Before an order for the new train was given, however, members of the public also were given an opportunity of expressing their opinions, and with this intention a test coach was built and placed in service on the Burlington lines early in 1946 and worked over the system under all kinds of conditions. More than 10,000 written opinions left no doubt that the travelling public welcomed the idea. An order was then placed with Pullman-Standard to build four coaches, which were to include other innovations besides the dome, and this new train, described and illustrated elsewhere, recently has been completed, and is now on an exhibition tour of the United States, drawn by a standard 2,000-b.h.p. Electro-Motive diesel locomotive.

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Shunting Locomotives for Indian Docks

The new 0-6-2 tank locomotives built by the Hunslet Engine Co. Ltd. for the Commissioners for the Port of Calcutta, with Messrs. Rendel, Palmer & Tritton as the consulting engineers, have many features of technical interest. The requirements were most exacting: trailing loads of 40 four-wheel wagons (1,280 tons) were to be hauled round curves of 300 ft. radius, and the engine was to be able to negotiate 250 ft. radius curves without gauge widening. Moreover, the axle loading was in no case to exceed 17 tons. The locomotives designed to meet these conditions are described elsewhere in this issue, and in service they have given such a good account of themselves that, after they had hauled 45 loaded coal wagons and 5 miscellaneous wagons (1,042 tons) on a cut-off of 65 per cent., the Chief Mechanical Engineer "considered that a load 25 per cent. heavier could have been hauled." Among the features of the design are: the long connecting rod, giving low slidebar thrust, and permitting a good valve-gear layout; the adoption of steam passages, both to the cylinders and thence to the blast pipe, which are notable for their directness; and the simplification of spare parts by making both cylinders to one "either side" pattern, and by using the same size of spring for every wheel.

* * * *

Transport Bill Amendments

ON July 23 the House of Commons considered the amendments which had been made to the Bill by the House of Lords. In opening the discussion, the Minister of Transport said that about 240 amendments had been made by the Lords, about 200 of which were drafting amendments, or were made as the result of agreement reached during the discussions, or which gave effect to pledges and undertakings given on the Report Stage. Of the total of 240 amendments, there were 10 major issues, involving 42 amendments, with which the Government proposed to ask the House of Commons to disagree with the Lords.

These major points of disagreement related to the powers of direction by the Minister; the appointments to the executive bodies by the Minister; the proposed creation of a Scottish Executive; the doubling of the mileage limit for long-distance road haulage; the exclusion from the jurisdiction of the Commission of the carriage of milk by road and of "A" licence vehicles under contract to one firm; the onus of proof; the subordination of the Commission to the licensing authorities; the decision of the referees on staff compensation; and the proposal that inquiries into objections to schemes proposed by the Commission should be conducted by persons not employed by the Minister.

The debate on these amendments, which was limited by the Government to one day, resulted in the House sitting continuously for 20 hours 20 minutes, the bulk of which time was spent discussing the amendments. After a debate which grew very heated at times, the Government rejected the whole of the main amendments made by the House of Lords and appointed a special committee to draw up reasons to be given the Lords for the rejection of these main amendments. The re-amended Bill and the reasons advanced by the Commons for rejecting the main amendments were considered by the House of Lords on Tuesday, July 29. Among the reasons given by the Commons were the following:—

(*a*) The proposed limitation of the Minister's powers of direction might unduly restrict the Minister in an emergency;

(*b*) The removal of the Minister's powers to appoint the Executives would lessen the control of Parliament through removing the Minister's responsibility for them;

(*c*) The creation of a Scottish Executive would cause difficulties in the transitional period and could be secured later, if found desirable, under the provisions of the Bill;

(*d*) The extension of road haulage from 40 to 80 miles and the radius from 25 to 50 miles would hamper unduly the Commission in the adequate performance of its duties;

(*e*) There are insufficient grounds for exempting milk and certain "A" licence vehicles;

(*f*) The placing of the burden of proof on the Commission is inappropriate having regard to the nature of the proceedings in question;

(*g*) An obligation on the Commission to obtain the approval of the licensing authority is inconsistent with the general scheme and intention of the Bill;

(*h*) Alternative amendments are proposed by the House of Commons in regard to the decision of referees and inquiries into objections to schemes proposed by the Minister.

These reasons and four additional alternative amendments which were tabled by the House of Lords were discussed on Tuesday, when one alternative amendment that the Minister should fix the number and names of the executives only after consultation with the Commission, was accepted by the Government. The other amendments were carried against the Government and will be considered by the House of Commons at a later date.

* * * *

Staggered Hours and Workmen's Fares

THE announcement by the Minister of Labour in the House of Commons on July 22, that the Government had decided that compulsory powers would be used from October 1 next, to compel firms so to adjust their working hours that one-third of the peak electricity load would fall outside the normal daytime period, inevitably will raise the question of the use of workmen's tickets. The Minister said that regional boards for industry would work out various methods of achieving this end, and that these methods may include adjustments of day-shift hours in different factories, staggered day-shifts, night-shifts, and rota schemes. Any of these measures will necessitate a large number of workpeople travelling at times quite different from those at which they now travel, and this doubtless will lead to requests for the continuance of the cheap workmen's fare facilities for those who at present enjoy them.

The main-line companies have certain statutory obligations in regard to the conveyance of workmen which are contained in the specific Acts relating to each company and also in the Cheap Trains Act of 1883. This Act provides that if proper and sufficient workmen's trains are not provided for workmen going to, and returning from, their work between 6 p.m. and 8 a.m. the company concerned may be ordered by the Board of Trade (since altered to Ministry of Transport) to provide such additional trains. Although the statutory obligation is to run such trains between 6 p.m. and 8 a.m. only, workmen's tickets are available, as a general rule, on the outward journey by trains reaching their destination up to 8 a.m., and on the return journey the tickets are usually available in the London area at any time of the same day; in the Provinces, they cannot be used until after 4 p.m.

The various Acts never specifically defined the classes of persons who were entitled to the privilege of workmen's

tickets, and, in practice, as the railways found it was impossible to distinguish between those who were legally entitled to such tickets and those who were not, workmen's tickets have been issued on application to any person asking for one, provided it was for use within the hours at which workmen's trains were run. During the 1914-18 war, however, shift working had to be adopted in many factories, and the railway companies, which were then under Government control, were authorised to issue workmen's tickets outside the usual hours to workmen coming within the category of mechanic, artisan or labourer, irrespective of whether the traveller was male or female.

Since 1918 a growing number of firms have worked two or more shifts permanently, and the "shift" workmen's fare facility has been continued, provided that the employees concerned produced to the railway company concerned a certificate from their employer certifying that they were employed as a "mechanic, artisan or labourer." If the present proposal for the staggering of hours becomes effective, somewhat naturally many employees expect that, although they are not mechanics, artisans, or labourers, they should retain the privilege of obtaining workmen's tickets. In this connection, it has to be borne in mind that the earnings of these categories of workmen have improved substantially in relation to office and other workers in recent years, and, in numerous cases, mechanics and artisans earn higher wages than other classes of workers who are strictly not entitled to travel with workmen's tickets.

Workmen's fares are appreciably lower than ordinary or monthly return fares and, as "shift" working doubtless will vary considerably between factories generally, the indiscriminate issue of workmen's tickets at any period of the day would involve the loss of a great deal of revenue and imperil the whole basis of passenger fares. Logically, a case could be made for the complete abolition of workmen's fares having regard to the various anomalies which have arisen, but we assume that political and other considerations would prevent the adoption of such a drastic step.

The anticipated difficulty possibly could be overcome by the issue of certificates by an employer, to all employees who previously travelled at workmen's fares but cannot do so in future because of the introduction of staggered hours commenced for the purpose of spreading the electricity peak load, on presentation of which the railways would issue the desired workmen's tickets. Such an arrangement clearly would have to be safeguarded very carefully to prevent its abuse. Incidentally, any material variation in the present working hours of industrial concerns generally may have an important bearing on the operating problems associated with carrying the peak loads, and it will be necessary for the regional boards which are arranging the staggered hours, to keep closely in touch with the local road and rail transport undertakings, to ensure that adequate arrangements can be made to meet the altered demand.

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Indian Railways in 1945-46

THE latest administration report published by the Indian Railway Board covers the fiscal year ended March 31, 1946. As Japan surrendered in August, 1945, only the first five months of the period under review were months of actual hostilities, but the remaining seven were also largely affected by the immediate aftermath of war. As a result, civilian passenger traffic, which broke all past records, was handled only with great difficulty, due to the quantity of rolling stock still earmarked for military requirements. Nevertheless, of the 116,000 daily passenger train-miles curtailed during the war in order to release engines and coaches for military traffic, some 39,000 had been restored by March 31, 1946. During the year, over 1,044 million passengers were carried by all railways in the peninsula, and the corresponding passenger-mileage figure was 41,336 millions; these figures are about 12¾ and 10 per cent., respectively, higher than those for 1944-45. Increases were mainly in short-distance traffic, and the average mileage a passenger was carried fell from 40·6 to 39·6. Although there was a slight decrease in freight traffic, 100·6 million tons being handled as against 102·1 millions in the previous year, total earnings were larger under both freight and passenger heads.

In fact, another all-time record was set up in that gross traffic receipts totalled Rs. 225·74 crores (£169,305,000) for all government railways and lines worked by them. This is Rs. 9·36 crores (£7,020,000) higher than the corresponding figure for 1944-45, itself a record. After meeting all charges, including depreciation and interest on capital, the year's working showed a gain of Rs. 38·20 crores (£28,650,000) of which Rs. 32 crores were placed to the credit of the general revenues of the Government of India, and Rs. 6·20 crores were transferred to the Railway Reserve Fund. Working expenses amounted to Rs. 145·09 crores (£108,817,500), an increase of Rs. 21·75 crores (£16,312,000) over 1944-45. The amount apportioned to the Depreciation Fund was Rs. 17·05 crores, or Rs. 0·04 crores (Rs. 4 lakhs) more than in the year before.

The operating ratio of working expenses—excluding suspense but including depreciation—to gross earnings was 70·77 per cent. as against 65·14 in the previous year. A net receipt of Rs. 4·14 crores accrued from miscellaneous transactions, but payment to worked lines as their share of earnings amounted to Rs. 2·36 crores. The net revenue totalled Rs. 65·38 crores (£49,035,000) as compared with Rs. 77·34 crores (£58,005,000) in the preceding year, a decrease of Rs. 11·96 crores (£8,970,000). As the rate of interest fell from 3·63 to 3·49 per cent., charges under this head were only Rs. 27·18 crores (£20,385,000) as against Rs. 27·45 crores (£20,587,500).

Five short lengths of new line totalling 24 miles were opened for public traffic during the year, but no new constructions were sanctioned. The Mohuda avoiding line on the Bengal-Nagpur Railway was closed. At the end of the year 25,200 miles of track on Class 1 railways were laid with wooden sleepers, and the percentages of the various kinds of sleeper were as follow:—

	Wood	Cast iron	Steel	Others
Broad gauge ...	40·60	42·64	16·57	0·19
Metre ,, ...	78·00	6·00	16·00	0

During the year, 360,531 soft-wood sleepers were impregnated with a mixture of 40 per cent. creosote and 60 per cent. fuel oil at the Dhilwan depot on the North Western Railway; some 80,000 cu. ft. of timber in other forms also were treated. The number of sleepers treated there in 1944-45 was 312,896. The average absorption of the mixture by each sleeper varied between 10·48 lb. and 15·3 lb. according to the species of timber. During 1945-46 the following locomotives and rolling stock were (*a*) placed in service, and (*b*) on order (including arrears brought forward from the previous year):—

	(*a*) Put in service		(*b*) On order	
	Broad gauge	Metre gauge	Broad gauge	Metre gauge
Locomotives ...	441	0	944	0
Coaching stock ...	94 units*	32 units	1,105 units	319 units
Goods stock ...	11,680 ,,	230 ,,	30,516 ,,	2,434 ,,

* These included 53 of the new standard third class bogies with considerably enhanced comfort

The metre-gauge figures are exclusive of War Department stock. On June 1, 1945, the Singhbhum workshops of the East Indian Railway were handed over to the Tata Iron & Steel Company, and were engaged on the manufacture of 100 boilers for 0-6-0 type goods engines during the year under review. The fuel economy campaign was intensified, but the supply of a greater proportion of inferior qualities and unfamiliar varieties of coal resulted in a slight increase in the general consumption over the year. This increase would undoubtedly have been much greater had it not been for the tight control and various economy measures in force. Flange force trials to improve lateral control of the standard Pacific type locomotives on the various lines continued under the Central Standards Office. They have established that the provision of a spring control to the hind truck is successful in relieving flange forces at the trailing coupled wheels, which on certain types of track have been found to be undesirably high. A robust type of spring control, therefore, is to be fitted to all "XB" and "XC" class engines.

The development of wireless communication on all government lines progressed satisfactorily, and most railways were effectively spanned by efficient wireless networks interconnecting all important junctions and transhipment termini with district and administrative headquarters. The average number of wireless messages transmitted in a month had risen to 150,000. Some 50 medium-power wireless stations were issued as a permanent payment issue and 30 more of the same type were promised. The Madras & Southern Mahratta Railway

administration was requested to undertake experiments of installing and working wireless equipment on running trains to maintain contact with stations and control offices. Suitable equipment was awaited. Though munitions production in railway shops continued, the number of staff solely employed on war work was reduced from 18,000 to 2,000 during the year. Training of railway personnel for railway military units was discontinued; about 40,000 men had completed their training. The scheme for training technical staff for the Labour Department continued; 16,220 men had been trained by March 31, 1946. By the end of 1945 about 145,000 militarised railway staff had reverted to civil status. Only 24 railway officers and 2,363 men remained under the War Department in March, 1946. The total number of employees of all grades on all Indian railways at the end of the year was 990,869 as compared with 964,519 twelve months earlier. The total route-mileage was 40,518.

The aggregate quantity of coal mined at the 10 principal railway collieries was 3,583,521, a large increase over the figure of 2,946,299 in 1944-45. The total tonnage consumed by all railways was 10,644,289 in the year under review. Of the 26,255,210 tons mined in British India, 24,298,212 tons were carried by the East Indian and Bengal-Nagpur railways. Co-ordination of rail and road traffic was pursued by all the major railways in collaboration with the Provincial Governments, and a number of schemes was agreed. The actual introduction of any joint service, however, had to be suspended, as the Legislative Assembly refused to make the necessary grant for funds in February, 1946.

Among the various post-war planning schemes which it was decided to investigate, preliminary examinations were carried out by railway administrations to select sections of line suitable for electric traction. As a result, it was decided to go ahead with the detailed investigation of electrifying about 1,500 miles in aggregate. Among the sections to be investigated were: Bombay-Ahmedabad (B.B.C.I.R. main line), Howrah (Calcutta)-Gaya (E.I.R. Grand Chord line), extensions of the existing G.I.P.R. electrified sections, and the E.I.R., B.A.R., and B.N.R. suburban lines around Calcutta. Of the 5,000 miles of new railway construction proposed, 3,777 miles of surveys were sanctioned during the year. Large-scale experimental water-softening and treatment plants were sanctioned on the N.W.R., G.I.P.R., B.N.R., M.S.M.R., and B.B.C.I.R The number of engine failures continued to be abnormally high, due to further deterioration in the quality of coal supplied, and to increased difficulty in obtaining spare parts.

There were 10 major accidents reported during 1945-46. In one instance, a fire in an ambulance train caused £20,000 damage but no casualties. In another, a loose rail in the six-foot fouled a passing train, killing 12 and injuring 18 gangmen at work on sleeper renewals on the parallel track. In a third, 13 persons were killed and 81 injured when a military train stabled in a ballast quarry siding ran away down a gradient and collided with the buffer stop a mile away. The other seven accidents were collisions of various kinds involving altogether 97 deaths and 278 injuries.

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Securing a Seat

WE have already referred to the benefit which the Southern Railway has conferred on the travelling public in this summer of austerity, by the running of Pullman trains to Devon and to Bournemouth. Passengers can be sure at least of a seat (though not of any particular seat, and the use of the word "reserved" is carefully avoided in answering applications for places on the trains) by paying the Pullman supplement—5s. and 3s. to Bournemouth and 8s. and 4s. 6d. to Ilfracombe—and the loading of both services already has testified to the public's appreciation of the facility, which, it is claimed, keeps in use vehicles that otherwise might have been standing idle.

It may be interesting to recall a somewhat similar position as regards the booking of seats which arose on the Midland Railway in 1917. Then, as now, seat reservation was suspended, but the Midland, which, in common with the Great Central and Great Eastern, retained a limited number of restaurant cars, continued its former practice of booking seats in the cars, without charge, from the starting point so that anyone who was prepared to pay the price of a meal usually could guarantee himself a seat for the journey. The practice was liable to abuses which do not apply to the Pullman seat booking today for not only did it limit the catering capacity of the kitchen to the number of seats in the car or cars, but any seats not officially booked and labelled in the diners, when the empty trains came into the terminus from the carriage-sidings, had "dummy" labels affixed to them by the restaurant-car staff and could be easily marketed to late-comers who had not taken the precaution to book places and found no vacant seats in the train.

In the present case it may occur to passengers that the railways might themselves have adopted the Pullman plan on their principal expresses from the starting point, issuing seat-tickets up to the number of seats of each class on the train (but not labelling the seats, nor guaranteeing any particular one), and reaping a considerable harvest from it at, for example, 2s. 6d. a place—the sum charged by the L.M.S.R. on the "Coronation Scot."

The formation of the principal long-distance trains is sufficiently constant, even in these days, to enable this to be done without difficulty, provided the train starts (as at Waterloo) from a "closed" platform, and if it were thought well to exclude Saturday, or Saturday and Sunday, travel from the arrangement, there might even be an added inducement to passengers to avoid week-end travel. It is no disparagement of Pullman accommodation or service to say that the majority of people now hurrying to book on the "Devon Belle" do so mainly to avoid a long wait at the station and a "standing seat" on the train.

The Pullman trains now running have conditions greatly in their favour, and the popularity they are winning may well affect the future of Pullmans in Great Britain on long-distance trains. The open saloon, as compared with modern compartment stock, and the Pullman principle of serving meals all through the train ("Every seat a restaurant seat," say the "Devon Belle" advertisements) do not appeal to everyone, but now, more than ever in the past, the Pullman trains do offer value for money. In addition to the guarantee of a seat, it can now be claimed that both trains are faster than, or just as fast as, the best ordinary service. This was not the case in pre-war days, and it would have been difficult then to argue that the Pullman supplement on the "Queen of Scots" to Glasgow or Edinburgh, as well as the higher Pullman tariff for meals, could be justified, when the "Royal Scot" or "Flying Scotsman" gave a faster service without supplement in the most modern compartment stock, and the high-speed "Coronation" and "West Riding Limited"—both virtually "Pullmans" as regards seating and catering arrangements—charged lower supplements than the Pullman to Newcastle, Edinburgh, and Leeds. It will be remembered that the "Torquay Pullman" of 1929 on the Great Western was not a success against the "Torbay Express"—a faster train charging no supplement—and only loaded well on Saturdays, when ordinary services were all overloaded and the Pullman guarantee of "no standing" filled its train.

The principle of "Limited" trains, and the compulsory booking of seats in them up to a fixed carrying capacity—though familiar to travellers abroad—never has been popular on British railways, and the tendency here has been promptly to suspend all seat-reservation in times of stress. Now, however, that the L.N.E.R. high-speed trains have conclusively proved that the public is prepared to pay for speed, it seems unfortunate, when we are facing the need for a further increase in basic fares, that our faster long-distance trains cannot all, when conditions become more normal, be subject to a substantial extra-fare, in the shape of a seat-charge irrespective of distance travelled or so framed as to exclude the short-distance passenger

If this were done, the semi-fast trains would offer the alternative of a slower journey at a cheaper rate, as they would demand no seat-charge. The proposal is logical, as it would remove the injustice of charging the same high fare to the passenger who wants speed (and is prepared to pay for it, as he does abroad) and to the man who is content with a slower journey in a train far less expensive to work, and the scheme—after the slight timetable revision which the classification or grading of expresses would naturally require—would be quite easy to operate.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Job Evaluation

13, North Gardner Street,
Glasgow, W.2. July 12

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The article entitled "Railway Wages Award" in the July 11 issue, reports a statement of the Court of Inquiry as follows: "The Court, however, states that it has reached one over-riding conclusion to which everything else seems to be subordinate. This is its conviction that there is a paramount necessity for detailed and exhaustive reconsideration of the grading of the classes, scales, and categories which make up the complicated structure of the service."

This is a statement with which I agree fully. Proper job evaluation is long overdue, not only for the railways, but for industry and commerce too. As it may be of interest to your readers to know how jobs, or occupations, are evaluated by modern methods, I will describe them briefly.

A group, consisting of the superintendent, foreman, leading hand, and standards representative or valuer, holds a conference to decide the value of each job in a department. One or more of the men doing the job may join the conference if the group is not too large. Each man has in front of him seven schedules or headings, under which the quality of the job will be discussed. The schedules cover education, training, manual skill, versatility, job knowledge, responsibility, and working conditions; and they are discussed in that order.

Each schedule lists the varying degrees or classes in ascending order of value, with the occupational requirements and the number of points for each class. For example, under training, the time required to train for a job may range from one day to over ten years—three years' training may rate 160 points. The standards man, who leads the conference, lists the number of points agreed on, together with a note of any unusual requirements, on an analysis record. It must be emphasised that it is the value of the *job* which is being discussed, irrespective of the person who is doing it.

After the conference, the standards man transfers the points awarded from the analysis records to a summary sheet under the headings of the seven schedules, and totals the points for each job in a column headed "total index." The total index of a job is applied to a conversion chart to obtain the rating factor which, when multiplied by the unskilled labour rate in the vicinity, gives the base rate for the job. For example, if the total index be 690, reference to the conversion chart may give a rating factor of 1·91—in effect, this indicates that the base rate of the job should be 91 per cent. above the value of the unskilled labour rate.

By using such a system of job evaluation, it will be possible to evaluate correctly the base rate of any job. It will take the guesswork out of rating and put it on a factual basis.

Yours faithfully,
G. RICHARD PARKES

Power Reverse Gears

7, Birch Grove,
Bilton. July 16

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Reading Mr. Smith's letter on the subject of steam reversing gears in your July 11 issue, made me wonder whether he has had any footplate experience with them, because his approach to the subject appears to be from the angle often evident in books and articles dealing with locomotive matters, namely, that of idealism.

Taking his first point regarding the numerous applications of this type of reversing gear to be found on pre-grouping locomotives, it must be remembered that in those days maintenance, which Mr. Smith thinks fit to sneer at, was of a much higher standard than at present prevailing, as was also the morale of both men and management, the reasons being fairly obvious to a student of railway affairs. But there is no doubt that periodical attention was required, and was most certainly given to the hydraulic cylinders and glands to prevent leakage and consequent "creep" into full gear when under load.

Also, in the majority of cases the engines were operating from home sheds with regular crews, another considerable item in their favour, because the enginemen and shop staff were familiar with the working of the gear and any peculiarities of each individual motion. All these factors no longer exist under the modern pooling system, when a form of reversing gear is required which will not constitute a further drag on the inflated cost of repairs. For simplicity, reliability, and accuracy of cut-off indication, the screw gear is by far the best.

Coming to the larger types of locomotive used for main-line express work, these are designed to run mainly in forward gear, so that the major effort required completely to reverse them is used only infrequently; and with a properly designed and balanced gear, this should not be an undue strain on the operator. Unfortunately, there are at present in operation types of screw gear which do require more strain to move them than should be necessary.

Now, for the smaller types used for shunting, etc., the balancing factor crops up again, and if sufficient attention is paid to this very important item, then the lever is both quick and simple to operate for this class of work.

Over a period of years steam reversing gear has been tried on various L.N.E.R. locomotives of several types, both express and intermediate classes, and has been removed during general overhauls, to be replaced by screw gear. The reason is that it has been found, no doubt by trial, that on the fastest and most exacting work it was not possible to get the fine adjustments of cut-off which such work demands, and, coupled with the disadvantages mentioned previously, it apparently was not found to be a desirable feature of a modern express locomotive.

I would add that my own experience with power gears is centred on the type fitted to a large number of N.E.R. locomotives. At the present time, partly due to locomotive shortage and consequent quick turn-round at depots, apathetic interest of enginemen and shop staff alike, coupled with the inaccessibility of this gear on some types where it is situated low between the frames, so that hydraulic cylinders and glands are neglected, there are, and I say this from personal knowledge, a large percentage of the L.N.E.R. "Q 6" engines in this area running about for a great proportion of their time in full gear, a scandalous position in view of the present fuel crisis.

Summing the situation up as a whole, Mr. Smith may be able to contact older men with experience of power gears who will be loud in their praises, having been in contact with them in their heyday of popularity, but he will also be able to find men of the present generation who have nothing but condemnation for their numerous shortcomings.

After all, we are now passing through a period in the history of locomotive design when every fitting used must be of proven ability and reliability in the interests of cheaper and more efficient transport, and the designers must ask themselves whether any advantages can accrue from the use of such things as steam reversing gear. I am afraid that, until a considerably more accurate and reliable gear is brought out than the average type yet in existence, and also free from patent royalties, then the screw gear will be a feature of British locomotive design.

Yours faithfully,
J. SLEE

Alleged Railway Inefficiency and its Cure

Hampstead. July 27

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The article under this heading in your July 25 number scoffs at the statement that the average speed of a freight train in 1945 was 7·64 m.p.h., and in today's *Sunday Express* Sir William V. Wood is at pains to explain that this speed is not the actual pace of running, but includes stops made for any reason. The statistic is, however, a valuable index of mobility, and one wishes that the L.M.S.R. President had proceeded to explain why the 1946 figure was only 3 per cent. better than the result for the disturbed war year of 1945, and 16 per cent. below the 1938 average of 9·15 m.p.h.

Last year, some of the engines may have been wheezy, and much of the locomotive coal poor, but freight train-mileage was only 2 per cent. above 1938, while passenger train-mileage was 17 per cent. less, so that many paths were left open for goods and mineral services. Freight train loads averaged 25 per cent. above 1938, but the additional facilities installed during the war were available to aid their progress.

If our railway operators made a determined effort during the rest of this year to achieve the pre-war standard of mobility, they could do much to avoid wagon shortages and give the new railway organisation a flying start for 1948.

Yours faithfully,
STATISTICIAN

ROAD BRIDGE TO BE BUILT BY G.W.R.—At the request of the Devon County Council, the G.W.R. is to construct a bridge near Totnes, to carry the Totnes by-pass road over its main line. The bridge superstructure will consist of a single reinforced-concrete skew span of 62 ft. with parapet walls of local stone; the substructure will be mass concrete with local stone facings. The bridge will carry a 30-ft. wide roadway, with two 5-ft. footpaths.

The Scrap Heap

Railwaymen's Wills

Two engine drivers whose wills were published recently left £2,880 and £361 respectively. The will of a retired railway guard published on the same day showed that he had left £625.

* * *

Intricate Joint Suburban Working!

Flying Scotsman Late

Several L.M.S. suburban trains were delayed recently because the "Flying Scotsman" was running an hour late. Failure of a locomotive on the Woodford to Liverpool Street L.N.E.R. line at Ilford caused a slight delay.—*From "The Evening Standard."*

* * *

Brighter Underground

To restore pre-war brightness a big general clean-up is now being carried out at seven important Central London Underground stations—Piccadilly, Aldgate, Aldgate East, Liverpool Street, Chancery Lane, Moorgate, Angel.

Special gangs of building workers will be engaged on the job for three weeks at each station. The work is being done at night to avoid inconvenience to travellers. It is part of a big programme to "brighten-up" 188 stations by the end of 1947.

* * *

Railroad Rodeo

A railway engine started out on its own—how, no one knows—from the yards at Alton, Illinois, the other day. Traffic was diverted out of its way all along the main line.

Twenty-five miles along the tracks another engine waited on a side line until the runaway passed. Then driver Robert Tipple and his crew gave chase and gradually caught up. By dexterous manœuvring Tipple held his engine sufficiently close for his crew to couple the two engines.

With the runaway "lassoed" just like the cowboys rope a steer, members of the crew climbed aboard and shut off the runaway's power. By that time it had travelled 50 miles.—*From the "Daily Express."*

And One of Fuel & Power Too

A recent visitor to Switzerland, surprised to see the handsome naval uniform of a fellow guest in the hotel, said to his Swiss conductor:

"But why an Admiral? You have no navy."

and received the reply:

"But why not an Admiral? Have you not got a Minister of Food?"
—*From "The Glasgow Herald."*

* * *

100 YEARS AGO

From The Railway Times, July 31, 1847

WHITEHAVEN JUNCTION RAILWAY COMPANY.—NOTICE is hereby given, that the HALF-YEARLY GENERAL MEETING of the Company will be held at the Savings Bank, in Lowther-street, Whitehaven, on MONDAY, the 9th day of AUGUST, 1847, at eleven o'clock in the forenoon precisely, on the general business of the Company, and for the election of three Directors and one Auditor in the place of the same number retiring by rotation.

And Notice is hereby further given, that the transfer books of this Company will be closed from Thursday, the 5th of August, to Monday, the 9th of August, inclusive.

LONSDALE, Chairman.
I. S. YEATS, jun., Secretary.

Railway office, Whitehaven, July 23, 1847.

* * *

Railway Queen Visits Parliament

Members of Parliament of all parties welcomed Miss Greta Richards, Britain's Railway Queen, at a Parliamentary tea-party held by Lady Megan Lloyd George on July 22 on behalf of the United Nations Association. In a private room at the House of Commons, the gathering, in which women members and members connected with railway trade unions and railway companies predominated, heard Lady Megan explain that the United Nations Association is going to help the Railway Queen to make a new start on the work for international goodwill which her predecessors did so successfully before the war. She has not been able to go abroad during her term of office owing to the disturbed conditions on the Continent, but the United Nations Association is going to arrange for her to visit the Continent on a goodwill mission. A golden replica of the U.N.A. badge (a world within laurels) will be added to the Railway Queen's regalia.

"A plague on the 'Devon Belle' and its observation coach!"

[*Reproduced by permission of the proprietors of "Punch"*

Royal Honeymoon Journey

8, Powis Grove,
Brighton. July 28

To the Editor of The Railway Gazette

Sir,—The news of the Royal bethrothal reminds me that, as a child of tender years, I was present at the departure from Liverpool Street Station of the late King George V and Queen Mary for their honeymoon at Sandringham on July 6, 1893.

The train left at 5.30 p.m. and admission was by the "High Level" gateway. The East Side Suburban was not then opened.

I wonder if there are any other railwaymen still serving who were present on that occasion.

Yours faithfully,
H. W. Cecil

* * *

Famous Clock Has New Dial

The famous "round the world" electric map clock in the booking hall at Piccadilly Circus Underground Station has just been given a new "dial." The dial consists of a 30-ft. long celluloid strip on which the hours of the day are engraved. It passes across a large world map, and travellers can read off the time in any city of the world.

The old dial became stretched with use, and a new one has just been engraved in the London Transport signwriting shop at Parsons Green and installed in the clock. The clock is the only one of its kind in existence in London, and requests reach London Transport for details of its construction from all parts of the world every year.

* * *

Paper to Spare

Time somebody passed the news of paper shortage to the 1,104 Press officers who are maintained by Government departments.

The P.R.Os submitted 11 separate items for yesterday's *Daily Express,* some three foolscap-sheets long. Sixteen hundred square inches of paper. The same quantity was presumably sent to all the other newspapers in the land.

How much was printed in the *Daily Express?* Not a line.

One item, set out on 48 square inches of paper, was a story of how Goering split his trousers at Hanover during the war and changed into another pair. The trousers have just been found, and the news was sent out by one of the 599 Press officers employed by the Foreign Office.—*From the "Daily Express."*

* * *

New York to St. Louis on the 6 ft. Gauge

From 1867 to 1871, it is recorded in the American publication *Trains,* the entire journey from New York to St. Louis could be made over railways of 6 ft. gauge. The "Great Broad Gauge Route," as it was called, consisted of the New York & Erie (now the Erie) from New York to Salamanca, N.Y.; the Atlantic & Great Western (also now the Erie) from Salamanca to Dayton, Ohio; the Cincinnati, Hamilton & Dayton (now Baltimore & Ohio) from Dayton to Cincinnati, and the Ohio & Mississippi (also now B. & O.) from Cincinnati to St. Louis. Before this period had come to an end, the Erie had laid a third rail to the 4 ft. 8½ in. gauge from Waverley to Buffalo, so that the trains of the Lehigh Valley could use its main line, and by June 22, 1880, the entire route between New York and St. Louis had been changed to the 4 ft. 8½ in. gauge.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

CANADA

Small Profits Impede Progress

Mr. W. M. Neal, Chairman & President of the C.P.R., recently made a comprehensive inspection tour of the company's properties and services in New Brunswick and Nova Scotia. In a speech at St. John at the end of his visit, he said that the present narrow margin between earnings and expenses was not sufficient to provide adequate maintenance of track and services, apart from modernisation of equipment on a scale commensurate with the importance of the trade and commerce of the nation.

Mr. Neal discussed the development of refrigerator vans as an illustration of the position. These vans now cost the railway approximately $11,000 each, but permit shippers of perishable foods greatly to expand their markets, with consequent benefit both to themselves and their customers. The financial situation had made it necessary to cut in half original plans to build 500 of these vans during the current year. Box wagons, which formerly cost the company $1,200, now cost more than $5,000 each. The number of such wagons originally contemplated for ordering in 1947 had to be reduced for the same reason. Comparable increases in costs could be applied to every single item of railway equipment. All basic industries except railways had shared in the general advance of the selling price of their commodities.

In endeavouring to meet the situation, the C.P.R. was studying and developing equipment such as diesel locomotives, of which a large shunting fleet was in operation already; covered hopper vans for the handling of bulk products; and many other technical matters calculated to provide the Canadian people with improved services at the lowest possible rates.

UNITED STATES

Wagon Exports Controlled

Exports of goods wagons have been placed under control by the U.S. Office of International Trade as from June 30. The measure has been taken to ensure that the large export orders which have been placed do not interfere with domestic requirements.

Modernised C. & O. Coaling Plant

A novel architectural treatment has been adopted by the Chesapeake & Ohio in the design of two new coaling plants to serve locomotives engaged on high-speed service. It has been necessary to locate these plants at the ends of station platforms in order that locomotives may be fuelled while standing with their trains during a scheduled stop. Care has been taken, therefore, to make the equipment harmonise with modern taste in railway architecture. All the equipment, consequently, is encased in a shell of corrugated metal, of streamline form and coloured to match the locomotive livery. Recesses in the front wall enable the coal discharge aprons to be raised flush with the building when not in use.

Mechanically, the two plants are designed for rapidity in fuelling, which has to be carried out during a station stop of about three minutes. They are situated at Hinton and Clifton Forge, at opposite ends of the Allegheny Mountain section of the C. & O. line between Washington and Cincinnati. The reason for their introduction was the forthcoming use of steam-turbo-electric locomotives on high-speed trains over this route. At present, locomotives are changed at several points on journeys between the two cities, but the new turbo-electric type will make the run throughout, taking water at various stations, but being coaled only at Hinton eastbound, and Clifton Forge westbound.

WESTERN AUSTRALIA

Hot Water in Sleeping Cars

In order to provide a hot water system in sleeping cars, tests have been carried out by the Chief Mechanical Engineer, Mr. F. Mills, to find the best means of supplying this amenity. Heating of water by electrical resistors was considered first, but was abandoned after close investigation as it involved too heavy a load on the battery capacity. Gas heating and Primus stove arrangements had the disadvantage of certain operating difficulties. From this it seemed that heating on the car itself was not a practical proposition, and Mr. Mills decided to experiment with an insulated tank. He found, in a stationary test, that the insulation was so effective that the water fell only from 210° F. to 86° F. in 96 hr.

Tests then were carried out on a sleeping car on the "Kalgoorlie Express." Steam was blown into the tank to bring the water temperature to about 200° F. before starting the journey, and water at 145° F. was drawn off at Kalgoorlie, about 17 hr. later. This experiment proved that water could be kept hot, and the scheme has been developed on those lines. The tanks are filled with boiling water at the terminus, and serve throughout the journey without special apparatus on the cars.

A number of first class sleeping cars has been fitted already with this amenity, piped to the compartments and shower, and further equipment is in hand.

CEYLON

The General Strike

Attempts were made during May and June by extremist elements to disorganise the country on the eve of the general elections to the new Parliament. After strikes had broken out in many industries, and at Colombo Harbour, the workers at the Ratmalana railway workshops and the signal workshops at Colombo were called out (some 3,500 men in all). The other railway employees, in all some 16,000, remained at their posts, as did the complement of the Post & Telegraph Department staff and the supervisory staff of the Electrical Department.

Interference with Rail Traffic

Trains ran to schedule, but the strikers attempted to make travel unsafe, besides trying to intimidate those who remained at their posts. The track was interfered with, fishplates, nuts, and clips on lines over bridges being removed, and obstructions placed on the permanent way. Stones, bottles, and home-made "bombs" were hurled at moving trains. A patrolman was shot at and killed, vacuum brake pipes were cut, and goods trains looted during darkness.

To ensure safety, armed police patrolled in railway trolleys throughout the night in the troubled areas and night mail trains were piloted by light engines or trolleys carrying police parties. The timings of certain night trains had to be altered, and a general night speed restriction of 12 to 15 m.p.h. was imposed. During the critical days, all night goods trains were cancelled.

After a clash between a procession of strikers and the police, the State Council passed a Public Security Bill which gave wider powers to the police and restricted processions and public meetings. Strikers thereafter began coming back to work in large batches, and by June 16 conditions were restored to normal.

Pending consideration by the new Government of the granting of trade union rights to members of the public services, Whitley Councils have been set up on the lines of those established in the Civil Service in Great Britain. The question has been studied on the spot by Mr. A. F. T. Day, Chairman of the staff side of the National Whitley Councils in the United Kingdom, who visited Colombo at the invitation of the Government.

INDIA

Partition Work on the N.W.R.

Special committees are now engaged on the executive work of partition on the North Western Railway. They have been set up by the Railway Board in the North Western Railway headquarters office, Lahore, and have two officers, one Muslim and one non-Muslim, of equal rank, on each committee.

Under recent instructions from the Railway Board, the North Western Railway administration asked its various departmental heads to collect as a normal part of their duties information relating to the partition of the railway. This information was compiled for the consideration of the Railway Departmental Sub-Committee of the Expert Committee constituted by the Government of India (see *The Railway Gazette* of July 18). All matters concerning partition will be scrutinised by a standing committee comprising two Muslim and two non-Muslim officers of the rank of Deputy Principal Officer.

Accommodation is being requisitioned in New Delhi for the Eastern Punjab railway headquarters. In case the authorities fail to find sufficient accommodation in New Delhi, a section of the officers will be shifted temporarily to Simla until arrangements can be made in Delhi. It is expected that office and residential accommodation will have been made available by the time the decision of the Partition Committee is known.

BURMA

Main-Line Bridges Rebuilt

Improvements in the timing of trains between Rangoon and Mandalay have been brought nearer by the opening of three rebuilt bridges on this section during May.

The bridges concerned are at Kyankse, Ela, and Thawait. Work on the Myittha Bridge is proceeding satisfactorily, and when it is completed only three major bridges on the Rangoon-Mandalay line will remain in a damaged condition.

A beginning has been made with rebuilding the Gokteik Viaduct on the line from Mandalay to Lashio. It is hoped to restore through running from the north side of the viaduct to Lashio by October,

but the viaduct itself will not be finished before April, 1949.

Reconstruction of the line northwards from Mandalay to Myitkyina had reached Tantabin by the end of May. Through working to Kanbalu is expected very shortly

SOUTH AFRICA

Wagon Orders

Orders have been placed recently in Canada for 2,000 wooden wagons and 200 goods vans. This brings the total number of wagons on order to nearly 8,000. About 4,000 of these are steel bogie wagons, being built locally. It is expected that tenders for a further 2,000 wagons will be called for in the near future. The 1947-52 programme for goods stock provides for the expenditure of £25,000,000. In the current financial year, over £3,500,000 will be spent. The new vans will be fitted with toilet compartments and improved amenities for guards (see *The Railway Gazette* of March 7).

Motive Power Strengthened

Engine power also is being built up, and orders have been placed in Britain already for 255 locomotives. Many of these have been shipped and regular deliveries are being made. A further 144 engines still have to be ordered. Those on order and contemplated include electric, main and branch-line steam, and shunting engines. Included among the electric locomotives are 28 British units of improved design and tractive effort. Some of these are in use already in Natal. It is hoped that the present programme for new stock will be completed before 1952, and in addition to the wagons being built locally and overseas, a steady stream of new vehicles is being manufactured and put into service by the railway mechanical workshops.

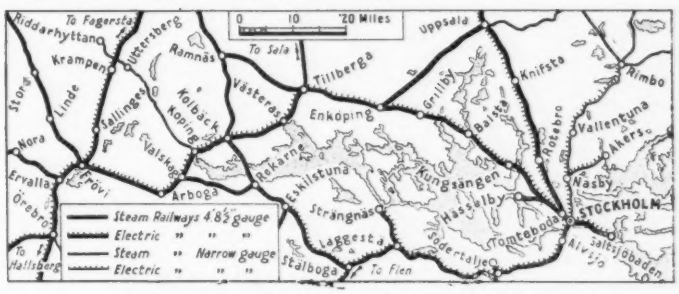
SWEDEN

New Electric Service

At the beginning of June electric operation began between Västeras and Frövi, with a resultant shortening of about 1 hr in the journey between Stockholm and the important industrial town of Örebro in the central mining district of Sweden. The conversion covers a distance of some 50 miles, about half of which belongs to the privately-owned Grangesberg—Oxelösund Railway, but the whole of the work has been carried out by the Swedish State Railways.

Electrification is now continuous between Stockholm and Örebro, the section between Västeras and Kungsängen, on the Stockholm-Ramnäs line, having been converted in January this year. In 1946 the electrification took place of the line between Tomteboda, on the outskirts of Stockholm, and Kungsängen.

Connection is made at Tomteboda with the main line from the North, which was electrified from Stockholm to Uppsala and Krylbo in 1934. This route had been converted throughout to Ostersund by 1939.



Electric lines between Stockholm and Örebro

Publications Received

London Transport: Its Locomotives. Compiled by P. Densham. Published by the Author at 67, Sussex Road, North Harrow, Mddx. 5¼ in. × 4¼ in. 34 pp. Illustrated. Paper covers. Price 1s. 6d.—The scope of this booklet, which is the second edition of "Locomotives of the Metropolitan Railway, 1863-1943," has been extended to the L.P.T.B. The section covering the Metropolitan Railway occupies the greater part of the book, and is largely unaltered, though names of steam locomotives are now shown in a separate list, and the class list of steam locomotives has been extended to show works numbers and more details as to disposal of the stock. Other new features in this edition include a list of miscellaneous Metropolitan Railway locomotives, and separate lists of steam and electric locomotives of the L.P.T.B. constituents. A number of illustrations appears with the line drawings, some of which have been improved in this edition, though others are still somewhat primitive.

The Railway Digest. London: George Lapworth & Co. Ltd., Vernon House, Sicilian Avenue, Southampton Row, W.C.1. 7¼ in. × 4¾ in. 64 pp. Illustrated. Price 2s. 6d. per issue.—Whereas the confirmed railway enthusiast is an avid reader of items concerned with history and reminiscence, his taste strikes many members of the general public who are interested in railways as somewhat odd. It is to these people that *The Railway Digest* will appeal, and it offers them news and information from the railways of the world from sources to which they would not normally have access. Even those whose duties compel them to read the international railway technical Press may find their attention directed to items they have missed during a hurried consultation of the originals.

The articles condensed in the first number of *The Railway Digest* introduce the general reader to the variety of interests comprised in the railway industry, for in addition to articles on locomotive and rolling stock matters, subjects such as portable radio equipment, station gardens, and even the exterminationn of rats on railway premises, are included. Most of the sources are technical papers, including our own pages, and the journals of railway companies, but there is a selection of lighter items from the popular Press at home and abroad.

Practical Hints for Footplate Men. London: Southern Railway, General Manager's Office, Waterloo Station, S.E.1. 6½ in. × 4 in. 72 pp. Gratis to all the Southern Railway Company's enginemen.—This is a well-produced book which should justify its cost of production by stimulating increased interest in their work among the footplate staff. The language is unaffected, and all technical points are explained so as to be easily understandable. The book is particularly directed to young firemen, who at the present time, may find themselves obliged to master the technique of firing and the knowledge of rules and hand signals, at a considerably earlier age than was usual in the past. Inspectors specially appointed for the training of footplate staff have general responsibility for instruction on the footplate; and this book is intended to supplement their work, by presenting those aspects of locomotive operation which can ben made clearer by a printed explanation.

The book was compiled by Mr. S. C. Townroe, of the Traffic Manager's Motive Power Department, in collaboration with Southern Railway staff, and with the assistance of Mr. O. V. Bulleid, Chief Mechanical Engineer, who provided many folding plates of locomotive details; it contains useful information on boilers and steam raising, the use of injectors, valves and valve gears, lubricators, and so on. No mention seems to be made of how to raise steam from coal of exceedingly poor quality; and in a future edition of this book a list of contents and an index would be improvements.

Odrodzenie Polskiego Kolejnictwa (Reconstruction of Polish Railways). Warsaw, Poland: Zaklady Graficzne Ministerstwa Komunikacji, Chalubinskiego 4. 8¼ in. × 6¼ in. 165 pp. Paper covers. No price stated.—This book gives an account of the very great amount of work which has had to be done to remedy the enormous damage suffered by the railways in Poland and to make them fit to play their part in the revived life of the country. It is divided into three periods, 1944-1945, 1946, and 1947, and covers every aspect of the subject. There are no illustrations, however, and the work will be of practical service only to those possessing a knowledge of Polish.

Timber Information Leaflets Nos. 1 to 30. Compiled by the Timber Development Association Limited, 75, Cannon Street, London, E.C.4, in loose-leaf form, duplicated.—These leaflets include a list of the association's publications and cover a wide range of subjects. Among them are decay of timber, preservation and storage of timber, protection of green lumber against decay, the erection of timber structures and material required for a large range of them for agricultural and other purposes. Leaflet numbers in the early twenties embody descriptions of the marketing of foreign hardwoods, under the heading of "Forest to Consumer," the T.D.A's Library Service, the structure of soft and hard woods, and a solution of the problem of wood waste—an ingenious American method of "mincing" the waste, pressing and moulding it into 4-in. × 12-in. cylindrical "Presto-logs" fuel "briquettes."

L.M.S.R. Permanent Way Developments—2

Progress with measured shovel packing—Renewals by crane

MEASURED shovel packing, which is a method that has been employed with particular success on the L.M.S.R., was already well known before the war, but it has since been further simplified and improved.

Several methods of packing sleepers were in use before 1934, when the L.M.S.R. first tried out that known as "measured shovel packing," which provides for the instrumental determination of the amount of ballast required under the sleeper immediately below the rail, where wastage is most pronounced. Furthermore, the introduction of measured shovel packing gives a more lasting foundation for the sleeper, and the intervals between which it became necessary to pack the sleepers were materially increased over those of previous methods.

The method provides for sighting the level of the rail surface with sighting boards to determine the imperfections in rail levels, while instruments known as voidmeters determine the voids under the sleepers which have to be filled to ensure that the sleeper is in contact with the rail. The summation of these two figures determines the quantity of ballast chippings required under the sleeper to bring the rails to their proper level; these measurements are all taken on the sighting boards and voidmeters in terms of canisters of chippings.

The stone chippings, size ½ in. max., are spread on the ballast under the sleeper for a distance of about 15 in. on each side of the rails. The sighting of the rails with the sighting boards is ascertained while the track is in a static condition, but the voids under the sleepers are measured while the track is under dynamic loading. Since measured shovel packing was introduced, the mode of carrying it out has been much simplified, with consequent economy in the actual time of operating the method.

Renewals by Crane

The method of renewing track by crane in pre-assembled lengths was first tried out on the L.M.S.R. in 1938, when several miles were undertaken on the Peterborough line. Wartime difficulties prevented an extension of the method until 1945, when suitable equipment again became available.

Actually, there are two methods of renewing track by crane, one known as the two-crane method, and the other the one-crane method; the former has been the one most used on the L.M.S.R. up to the present. With both methods the lengths of track (usually 60 ft.) are pre-assembled in some convenient small depot, where the rails and baseplates and/or chairs are fastened to the sleepers in their permanent positions.

The crane (or cranes) are used to lift, convey, and assemble the rails and sleepers so as to minimise the manhandling of these components. The sleepers are prebored, adzed, and creosoted at the usual depot. About 12 men are employed on this work of pre-assembly, and the positioning of the sleepers and rails in their exact locations is effected by jigs. As each length of track is assembled, it is either stacked in tiers on the ground or loaded direct on to rail trollies.

For laying the track, complete possession is necessary of two tracks, one on which renewal is to take place and on which the material trains operate, and the other on which the crane or cranes operate.

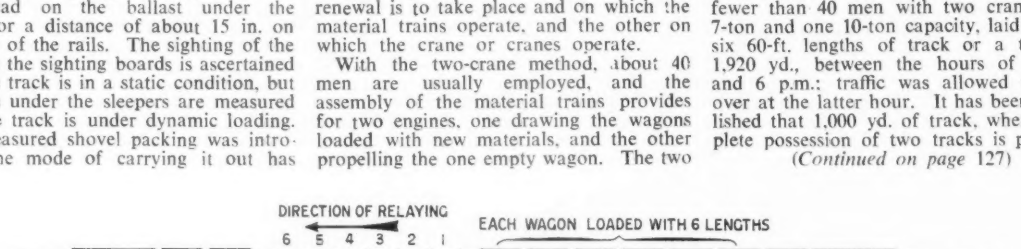
With the two-crane method, about 40 men are usually employed, and the assembly of the material trains provides for two engines, one drawing the wagons loaded with new materials, and the other propelling the one empty wagon. The two trains are located one on each side of the first few lengths of track to be relaid. As stated previously, the two cranes are situated on the track adjoining that to be relaid, one on each side of the first length to be renewed. The procedure is for one crane to lift out the old track, and convey and load it on to the empty wagon, while the other crane is employed in unloading and laying the new length of track into position in the line. As each wagon is unloaded of new material, the track, new and old, is coupled up so that the empty wagon can be passed back from the new material train to the old material train.

During the time between the lifting of the old track and the laying-in of the new, the ballast beds are hacked up and the ballast levelled off to provide the proper bed for the new sleepers. The laying of each length of track is followed up immediately by bolting up fishplates and correctly positioning joint sleepers; when the renewals have progressed sufficiently, a ballast train is brought in and ballast discharged from the hopper wagons on to the newly-laid track, so that packing and topping can be dealt with currently.

Immediately all lengths of pre-assembled track have been laid in and fishplated and material trains and cranes taken away, the lines can be opened to traffic, but with the usual speed restriction of about 15 m.p.h. Within a few days of laying the track by this method, and with gangs following up in consolidating the newly-laid track, it is usually possible completely to remove the speed restriction, after about two or three days, depending on local conditions.

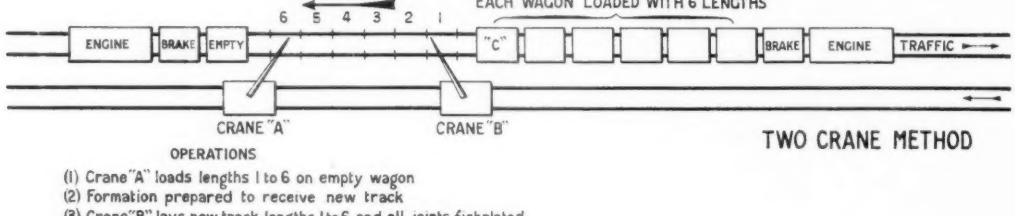
During a recent demonstration on the L.M.S.R. of this method of laying track, fewer than 40 men with two cranes, one 7-ton and one 10-ton capacity, laid ninety-six 60-ft. lengths of track or a total of 1,920 yd., between the hours of 6 a.m. and 6 p.m.; traffic was allowed to pass over at the latter hour. It has been established that 1,000 yd. of track, where complete possession of two tracks is possible,

(*Continued on page* 127)



OPERATIONS

(1) Crane "A" loads lengths 1 to 6 on empty wagon
(2) Formation prepared to receive new track
(3) Crane "B" lays new track lengths 1 to 6 and all joints fishplated
(4) Wagon "C" now empty is run forward over new track to position previously occupied by first empty wagon
(5) Whole cycle repeated



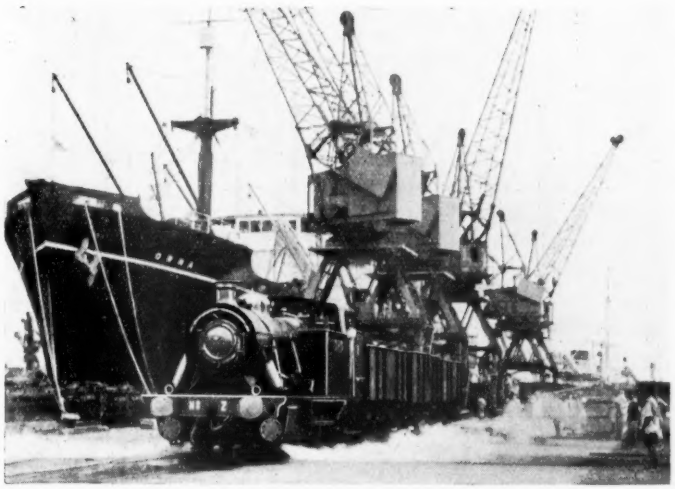
OPERATIONS

(1) Crane loads lengths 1 and 2 on empty wagon
(2) Crane lays new track length 1, and fishplates are put on
(3) Crane removes length 3, and returns with new length 2
(4) This is repeated until 6 new lengths from first loaded wagon are laid
(5) Original empty wagon now loaded with lengths 1 to 6 of old track is run back to the brake
(6) Whole cycle repeated

Sequence of operations for relaying pre-assembled track by crane methods, with 60-ft. lengths of track

Heavy-Shunting Locomotives for Dock Work

Specialised design for Indian conditions



Hunslet 6-coupled tank locomotive shunting at Calcutta docks

CONSIDERABLE technical interest in constructional details and operating performance attaches to some 0-6-2 tank locomotives recently delivered for heavy shunting at the Port of Calcutta. They have an unusual wheel arrangement for docks engines, but one that was necessitated by the ample water capacity desired on a rather low maximum axle-load. Very considerable trailing loads have to be handled round the usual dock curves, and the increase in capacity over that of the previous shunting locomotives is some 33 per cent. For simplicity of construction and ease in general maintenance, saturated steam was chosen, but at the comparatively high pressure of 210 lb. per sq. in. The firebox and boiler proportions had to be adjusted to the use of poor-class Indian coal with a calorific value averaging 12,000 B.Th.U. per lb.

Principal Dimensions

The following are the principal dimensions:—

Cylinders (2), dia. × stroke... ...	16 in. × 24 in.
Piston valve, dia.	8 in.
Coupled wheels, dia.	3 ft. 10 in.
Trailing wheels, dia.	2 ft. 6 in.
Wheel-base, rigid	11 ft. 0 in.
,, total	16 ft. 6 in.
Axleload (permissible)	17 tons
,, (actual maximum)	16¼ tons
Adhesive weight	49·2 tons
Adhesive factor (at 85 per cent. boiler pressure)	4·6
Weight of engine in working order...	64·95 tons
Boiler pressure	210 lb. per sq. in.
Heating surfaces:	
Tubes: 200 (steel) 1¾ in. outside dia.	940 sq. ft.
Firebox (steel)	90 ,,
Total	1,030 ,,
Grate area	18 sq. ft.
Tractive effort at 85 per cent. boiler pressure	23,840 lb.
Total water capacity	2,000 gal.
Coal capacity	2½ tons

In certain respects the specification was stringent. Originally an axle load not exceeding 16 tons was contemplated, but to secure fully adequate tractive power to cope with increasing loads at the port, a maximum of 17 tons was sanctioned. The maker was able to keep below this figure, and yet show a good division of adhesion weight over the three coupled axles in the full working-order condition—not always an easy matter in a 0-6-2 tank engine. With tanks and bunker empty, the distribution is not so favourable; but in the more usual conditions approximating to, say, tanks one-third full and bunker about one-quarter full, the coupled-wheel loading is still satisfactory. These points are of importance in heavy harbour work, where "kicks" and "drags" of maximum tractive effort are not infrequent, and where full use must be made of the available adhesive weight without cutting the adhesion factor too fine. One further aspect of port work in relation to the locomotive needs mention, namely, ample rail clearance; in this case a clearance of 5½ in. with new tyres was achieved, despite the adoption of coupled wheels only 3 ft. 10 in. in diameter.

At the request of the Commissioners for the Port of Calcutta, Messrs. Rendel, Palmer & Tritton, as the consulting engineers, drew up a preliminary design and specification to meet the requirements.

The tender of the Hunslet Engine Co. Ltd. was accepted, and thereafter consulting engineers and builders closely collaborated in the detailed design. The order placed, to Rendel, Palmer & Tritton's inspection, was for six locomotives; the maker's numbers were 2378-2383. Stipulations were that a load of 1,280 tons trailing, made up of 40 four-wheel wagons of 15 ft. wheelbase, should be hauled round a curve of 300 ft. radius, on which 17 of the wagons would be travelling at one time. The locomotive alone had to be capable of negotiating a 250-ft. radius curve without gauge widening, and most of the points and crossings over which these engines work are of 283 ft. radius; sufficient fuel and water had to be carried for 12 hr. of continuous work.

The design to meet these requirements and fulfil the usual standard specification for Indian locomotives, is a 65-ton engine of the dimensions shown on the drawing on page 124. Though the boiler pressure is limited to 210 lb. per sq. in. in service, boiler design calculations were based on 220 lb. per sq. in. With a tractive effort of 21,000 lb., based on 75 per cent. boiler pressure, the factor of adhesion is 5·25 against the adhesion weight of 49·2 tons, and is still well above 4·0 under the worst possible conditions.

Though the boiler is not pitched at great height, the smallness of the coupled wheels would have permitted a deep firebox, had not the ashpan requirements to suit the indigenous coal taken a good deal of space above the rear coupled axle. The ashpan itself is of the hopper type, with cast-steel bottom hopper doors and operating mechanism at the side. In accordance with normal Indian practice, the front section of the firebars is of the drop type, and is worked manually from the cab.

Only one ring, $\frac{9}{16}$ in. thick, is used for the boiler barrel, which contains 200 steel tubes 1¾ in. outside diameter and 10 ft. 3 in. long, pitched at 2⅜-in. centres, giving an ample bridge of $\frac{7}{8}$ in. (nominal) in the firebox tubeplate. The steel inner firebox follows normal lines, and was specified to be of Colville's special Double-Crown firebox steel. Flexible staying is confined to the top two rows and to the front and back vertical rows of side stays, and the three front rows of roof stays, all of which are of the Flannery type. Boiler fittings include two 3-in. Ross pop safety valves; a Joco double-beat balanced regulator with a long double-way handle in the cab; and two Evrit blow-off cocks. Apart from the copper internal main steam pipe, there are no pipes inside the boiler.

The feed arrangements are comprehensive, and comprise two Gresham & Craven 8-mm. live steam injectors, a Worthington duplex pump on the left-hand side of the running plate, and a treble clack box—but not a top-feed tray-series arrangement—on top of the barrel at the front end. Adequate steps have been taken to ensure ample washout facilities, so as to cope with the effects of the hard feed water. The whole of the boiler and firebox is lagged with 1-in. Limpet asbestos mattresses.

Plate frames 1¼ in. thick, with the cross-bracing riveted to them, form the basic structure of the locomotive; and as the drawing shows, the horizontal bracing countering the racking stresses is substantial. This arrangement was needed also to stay the frame adequately for shunting work, and the strong construction at the front end below the smokebox saddle will be noted; also the box form below the bunker. Side buffers and central drawbars are of standard type and both have Spencer Moulton rubber springs. No wedge adjustment is provided in the cast-steel hornblocks which are fitted with case-hardened liners; and the coupled axleboxes are of solid bronze with Ajax container-type grease lubricators. Axlebox journals are pitched at 4 ft. 2 in. transverse centres which may be compared with the distance of 4 ft. 9 in. between the frames.

Overhung laminated bearing springs are used throughout, and are compensated in two groups down each side; the trailing coupled springs are connected to those of the radial truck. An interesting detail is that all eight springs are exactly the same, so simplifying stores and spares problems. Each spring is made up of 13 plates 4½ in. wide by ½ in. thick, with the non-adjustable hangers at a nominal distance of 36 in. The trailing radial truck is arranged for a total side play of 5½ in.—this movement corresponding to a 250 ft. curve—and has its lateral movements controlled by an 18-coil helical steel spring adjusted to give an initial restraining force of 1·32 tons, and a final compression of 2·15 tons.

Of the six coupled wheels, the centre pair is flangeless and the tread of this pair is 5¾ in., ½ in. wider than the end pairs. The wheel centre castings are of steel, and the cast-iron thrust faces fitted to the hubs are lubricated by Ajax grease nipples.

For a shunting locomotive, particular attention has been devoted to the balancing. Revolving weights on each wheel are balanced; and of the 33 per cent. of the reciprocating weights balanced down each side, 11 per cent. is distributed over each coupled wheel. Hammer blow thus is negligible, even at speeds of about 25 m.p.h. when the wheels are making over 3 r.p.s. The counterweights are formed by plates riveted on each side of the spokes, with 95 per cent. lead and 5 per cent. antimony filling the intervening space.

Cylinders, steam, and exhaust branches are of simple design effectively proportioned. Only one pattern was made for the two cylinders, each casting being applicable to either side of the engine. The lack of a superheater tends to simplify the live steam pipe from the smokebox tubeplate; and similarly the exhaust branch from each cylinder has only one large-radius curve in one direction, cylinder, and blast pipe centres being on the same line. The blast nozzle is 4⅞ in. dia., set in 12 in. below boiler centre line.

The pistons are of box form with two narrow rings, and the rods have Britallic packing in the stuffing box. The "N-C" type of Wota bypass valve is fitted above each end of the cylinder, and projects through the running plate fore and aft of the steam pipe. Cylinders and valves are lubricated by a Wakefield 6-feed mechanical lubricator driven off an arm on the right-hand side reversing link. The long connecting rod—10 ft. 2 in. between centres—gives the low slidebar thrust desirable for locomotives of this general class. Coupling-rod ends and connecting-rod big ends have fully-floating bronze brushes with hard-grease lubrication from Ajax nipples. The small end of the connecting rod has adjustment through the usual wedge and taper bolt. One detail of the slidebars is a stop on the inner end, so that, after the gudgeon pin is disconnected, the crosshead and rod can go forward far enough for the piston rings to be renewed, and the cylinders examined from the front.

The 8-in. dia. inside-admission piston valves are actuated by a Walschaerts gear that gives excellent characteristics, mainly because the drive is taken off the rear wheels, thus providing eccentric and radius rods of adequate length. Full forward gear slip of the die block, for example, is only $\frac{9}{32}$ in. The piston valve heads are kept tight by five narrow rings, and the spindles have Bell's Reefer-type packing.

The motion, with 1½ in. pins, has renewable cast iron bushes, except for a phosphor-bronze bush between the eccentric rod and the return arm. Screw reversing gear is fitted on the right-hand side, and needs 10 turns from full forward to full backward gear. Valve events provide for a maximum travel of approximately 4⅞ in. in forward and backward gears, corresponding to a cut-off averaging 82 per cent. in both directions. Valve lap is 1 in. and exhaust lap $\frac{3}{16}$ in.

Cab and tanks are of normal steel construction; the cab is open at the back and has the usual Indian double roof. Side tanks and bunker are built up by welding $\frac{3}{16}$ in. plates. The side tanks are filled through elongated lids on each side.

The locomotive is steam-braked and a

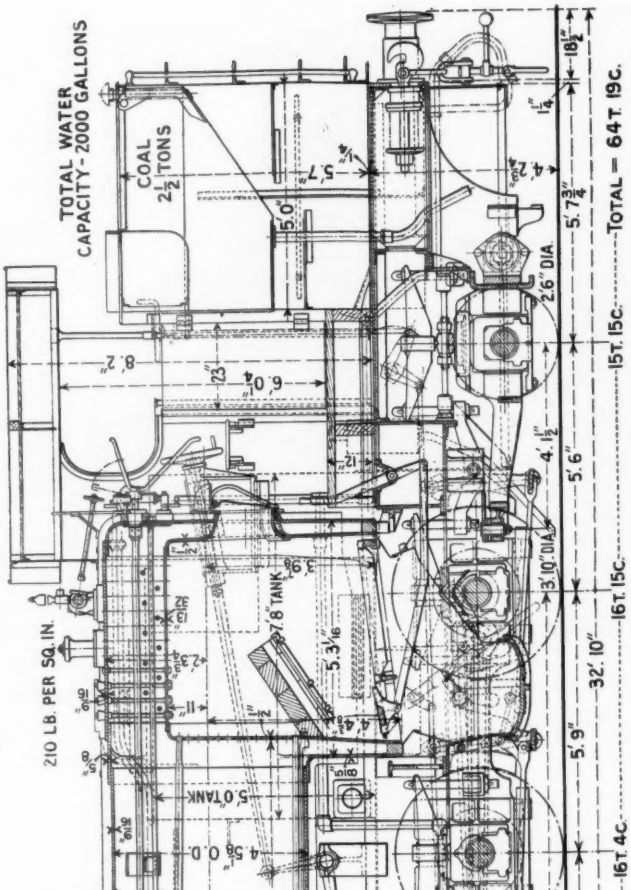
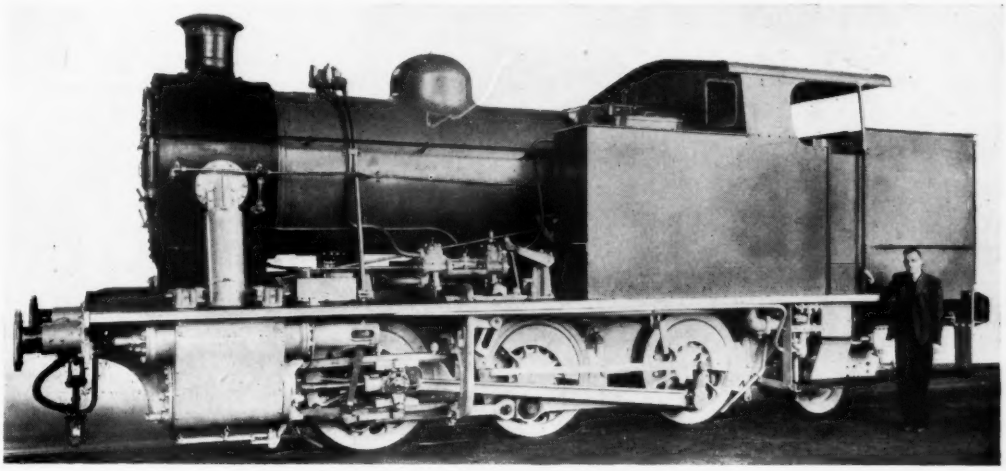


Diagram of locomotive showing principal weights and dimensions

Dreadnought ejector and equipment is included for operating vacuum brakes on the train. Only the coupled wheels are braked on the locomotive—up to about 75 per cent. of the empty weight on them—from a horizontal cylinder 9¼ in. dia. × 6½ in. stroke. The brake rigging is compensated throughout and the leverage from cylinder to block is 5½/1. The blocks themselves are of large size, 18 in. long and 4½ in. wide. The steam brake can be operated independently of, or in conjunction with, the train brake, and has a driver's valve at each side of the cab; a hand-screw brake is linked with the rigging.

Operating reports show these six locomotives to be giving consistently sound performance. Trailing loads of 43 loaded coal wagons are taken from the New Grid to the Old Grid, negotiating all sharp curves without difficulties. Trains of 40-46 loaded wagons of 840-850 tons total, are handled over the West Yard, and from the East Yard to the Sugar Sheds; no difficulty is shown in pulling these loads round sharp curves. On one set of observations, six hours of heavy shunting and short haulage with 40-46 wagons, of 830-850 tons, were undertaken on a coal consumption of 15 cwt. and a water consumption of 1,000 gal., so supporting the contention that the 2,000 gal. of water and 2½ tons of coal are ample for 12 hr. of hard work. On all these runs the wagons were loaded with merchandise. With 45 loaded coal wagons and five miscellaneous wagons totalling 1,042 tons, a cut-off of 65 per cent. was enough to do the work easily; and the Chief Mechanical Engineer considered a load 25 per cent. heavier could have been hauled.



Hunslet 0-6-2 tank locomotive for Calcutta Port

Thread Grinding with a Multi-Ribbed Wheel

A compact machine for accurate work using the Matrix principle of wheel-forming

MANY contributions to accuracy in the production of small screw threads and taps have been made in recent years by the Coventry Gauge & Tool Co. Ltd., and the special requirements of wartime manufacture resulted in further improvements in this respect. The bench type patented thread grinder illustrated employs the maker's Matrix method of forming a multi-ribbed wheel, either by means of a diamond dresser or, for less exacting work, by means of a hardened-steel roller in a special wheel-crushing unit.

The diamond dresser consists of a compact box-shaped unit housing an accurately ground and lapped spindle, on which is mounted the cam for any specified pitch. Rotation of the cam through a driving peg on the faceplate of the machine transmits a reciprocating motion to the diamond. The depth and form of the angular grooves produced on the periphery of the wheel are governed by the type of cam, the shape of the diamond, and the gearing.

For use with the crushing unit, sets of rollers are available to cover the complete range of threads. Dressing of the wheel is accomplished by feeding it, while rotating slowly, into the crushing roller, thus impressing the form of the roller on to the grinding wheel.

The machine will accommodate work 4 in. in length between centres, with a maximum diameter of ½ in. It can be mounted on a bench or on the special base illustrated, when it occupies a floor space of only 28 in. × 39 in. Threads can be produced of accurate form from 12 T.P.I. to the finest limits required by instrument manufacture.

Bench grinder mounted on special base, showing convenient grouping of controls

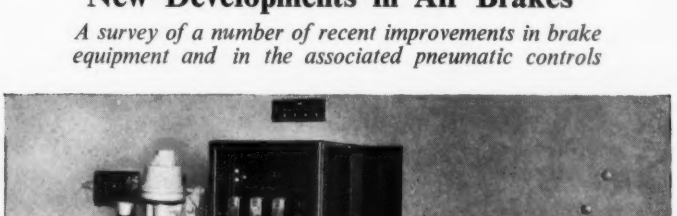
The wheelhead is driven by a 0·6-h.p. dynamically balanced a.c. motor, which transmits the drive to the spindle through a belt running in variable speed pulleys. Separate push-buttons are provided for control of the main electric motor drive and the independent coolent pump motor. When the machine is started, the wheel is set in motion, and by raising the traverse lever the work rotates at a speed determined by the ratios of the workhead pick-off gears. These gears are mounted accessibly behind a sliding cover, on the back of which is a table showing the range of speeds available.

The infeed control wheel is set to the required thread depth, and grinding is controlled thereafter by the traverse lever, operation of which sets in motion the table traverse, which is governed by adjustable stops according to the length of thread to be ground. As the work traverses across the wheel, the thread is ground in one pass, at the end of which the traverse lever is depressed to disengage the wheel and return the table to its original position, ready for the next component. The pitch required is determined by the combination of change-gears, which are housed behind a removable cover on the worktable.

An adequate supply of coolant is delivered by a pump with a capacity of 3 gal. per min. The enclosed units are lubricated by an oil bath. Greasing nipples are fitted for the lubrication of small parts. The simplicity of design of the machine facilitates accurate alignment, enabling full advantage to be taken of the capacity for rapid production of accurate work inherent in the Matrix principle of wheel-forming.

New Developments in Air Brakes*

A survey of a number of recent improvements in brake equipment and in the associated pneumatic controls



Apparatus for detection of hot bearings

RECENT improvements in brake equipment for passenger coaches cover a wide range of requirements, and first dealt with may be several forms of control. These devices supplement the conventional air-brake to give: (1) faster response; (2) more flexible control; (3) the practical use of higher braking pressures; and (4) reduced likelihood of sliding wheels.

In connection with these developments a special control valve (the "D22") has been designed, differing from the "universal" control valve in that the air, instead of flowing *via* the control or triple valve to the brake cylinders, is governed by a relay valve. Under certain conditions during brake application, the relay valve isolates the triple valve and directly controls the air flow to and from the brake cylinders. This allows independent control of brake-cylinder pressures, so that the braking force initiated by the driver may be altered locally to suit changing conditions during stopping the train.

Two Compressed Air Systems

Either of two distinctly different systems may be used to bring compressed air to the relay valve. First, the triple or control valve may be used, relying on the usual local brake pipe venting to effect brake application throughout the train. Alternatively, an electrical control may be installed in parallel to the pneumatic system. In this case no brake pipe reduction is involved for service braking; but instead, an electric circuit running through the train is energised by the locomotive brake valve, to cause the development of pressure on the relay valves by magnet-operated control valves. Whichever system is used, the brake-cylinder pressure on each vehicle will correspond with that at the face of the relay valve until a local condition makes it desirable to alter it. Examples of such conditions arise in high-speed operation, and during wheel sliding.

Brake-block friction is low when wheel speed is high, so that if wheel sliding is to be avoided, stopping distances have tended to be longer than they would need to be if this were not the case. To suit the braking force to the train speed, a variable brake-block pressure is needed. This is effected by the speed governor control incorporated in the relay valve, which lowers the brake-cylinder pressure as train speed is reduced. It comprises an electric speed - recording governor mounted on one axle of each vehicle; a relay valve containing several electric relays, each responding to a different car speed; and a pneumatic adjunct to the relay valve in which a different pressure value is associated with a particular speed-sensitive relay. Basically, this gives step control of pressures, but properly tuned exhaust chokes enable cylinder pressure reduction to be practically continuous.

For emergency operation the basic braking ratio values are 250 per cent. from maximum train speed to 65 m.p.h., followed by a reduction to 200 per cent. between 65 and 40 m.p.h., a further gradual reduction to 150 per cent. between 40 and 20 m.p.h., and a still further gradual reduction to 100 per cent. from 20 to 0 m.p.h. This compares with 150 per cent. maximum braking ratio held constant throughout the stop for equipment without speed-governor control. Thus, much higher forces can be used initially, though lower forces are applied towards the end of the application without increasing the overall stopping distance, and without wheel sliding.

There are occasional instances of sub-normal rail adhesion when even a relatively low braking-force can cause wheel sliding. A device known as the "Decelostat" has been introduced for such occasions, to reduce momentarily the braking forces on the wheels which are slipping, and permit them to resume train speed. An inertia device mounted on one journal axlebox of each axle is rotated at axle-speed; and a device for lowering brake-cylinder pressure is incorporated on each bogie. The inertia device ignores the normal deceleration achieved during a stop, but is responsive immediately to a deceleration rate in excess of normal, such as occurs when a wheel slips on a rail.

Pressure Control

The pressure control device thereby is caused to reduce promptly the brake-cylinder pressure for a short interval, during which the wheel regains its rotation at normal speed. The initial brake-cylinder pressure then is restored at once. Automatic sanding also is associated readily with the wheel-slip detector, to sand the rail during the stop following this first wheel-slip indication.

Successful attempts have been made to associate with the brake equipment, a device giving warning of hot bearings, so that it will either actuate an alarm (a light or a bell), or operate the air signal system. Scientific study of the conditions led to the discovery that the critical temperature for a journal bearing varies with change in ambient temperature. Thus, a thermal detector designed to function at a predetermined temperature, regardless of the ambient temperature, cannot detect the critical bearing temperature except for one condition of the surrounding atmosphere. To have a temperature-checking device accommodate itself to varying ambient temperatures at first appeared very difficult to realise, until it was discovered that an adaptation of the "Wheatstone bridge" electrical circuit could be made to fulfil this need. The bridge, normally "balanced" electrically, reacts to electric unbalance in its circuit. Certain resistance arms in the bridge circuit are installed in the journals of the vehicle (one resistance unit to a journal), and the others are placed in an electrical cabinet. As the

The "Decelostat" for detecting wheel slip

* Paper presented by Mr. C. D. Stewart, Vice-President, Westinghouse Air Brake Company, Wilmerding, Pa., U.S.A., at the Annual Meeting of the Railway Fuel and Traveling Engineer's Association on September 5, 1946. Abridged

atmosphere surrounding the cabinet varies with the seasons, the balancing requirement of the circuit is varied automatically. This corrects the journal temperature device so that it responds only when overheating is imminent.

A pneumatic signal can be initiated by the hot-box detector, using an electro-pneumatic valve connected to the pneumatic signalling system. As a result of unbalance in the "Wheatstone bridge" circuit, an electric relay opens the circuit which normally connects the magnet of the electro-pneumatic valve with the battery on the vehicle. The signal line pressure is lowered and the signal whistle is sounded in the cab.

The new type of driver's brake valve (No. 24) is built like a sectional bookcase; there are five basic sections in the pedestal, and there are several types of three of these sections, to suit various requirements. If the locomotive is for ordinary freight service, the top or brake valve handle bonnet is similar to the top portion of the existing type "8ET" driver's valve. For high-speed passenger service with electro-pneumatic as well as pneumatic control, the brake-valve top will be suitable for operating either control by the same handle. Selection of the control is made by disengaging one brake-applying means and engaging the other (both are contained in this brake-valve top). There are five top sections to choose from, and any of these may be applied to the remaining sections at any time, to meet changes in operating conditions.

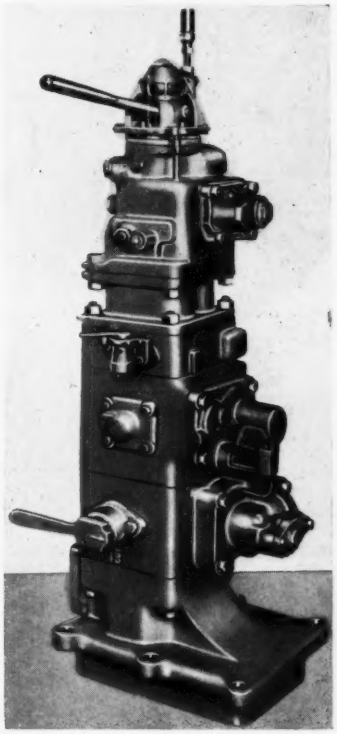
The second section is the same on all types of pedestals. The third section is in three types ranging from a simple filler block carrying the numerous air passages through it, to a complex casting containing an automatic application mechanism, designed to apply brakes without involving the driver, in the event either of a train control reaction or of the driver becoming incapacitated. The other two sections are functionally the same for all pedestals.

To provide a constant braking ratio on the tender (the weight of which varies over wider range than other vehicles) a "variable-load mechanism" may be added. This device depends for its action on the varying weight of water in the tender, which continually adjusts the pneumatic variable-load valve. This valve in turn changes the braking force and thus keeps it substantially constant.

The wheel-slip control already described can be applied to locomotives; but here it can be arranged to give additional warning of slipping by light or whistle alarm, or it can initiate the shutting-off of steam to the slipping wheels. Automatic sanding also can be incorporated. A new form of traction sanding has been developed in connection with automatic slip-control, which is economical of air and highly resistant to clogging.

Concerning new freight-vehicle equipment, the variable-load brake has been designed for modern light-weight wagons; and it alters automatically the braking force in response to a variation in the loading.

The loading is indicated by the deflection of the springs. As load varies only at destination points, the weighing device is inert except during the first interval of charging the equipment. This type of brake provides for a wide range of conditions, in place of the two conditions



No. 24 driver's brake valve, with top portion designed for high-speed passenger service with electro-pneumatic as well as pneumatic control

catered for in the former "Empty and Load" brake equipment. It is unsuitable for wagons which often may carry relatively light full loads, because some particular intermediate full or partial load value would cause the load brake to cut in, and allow much greater braking forces than those desirable. The load-compensating brake, however, is simpler than the "Empty and Load" brake; it requires only one cylinder, in one size. The brake-cylinder pressures are regulated by means of a scale beam; the master end is under the influence of the braking pressure, and the slave end measures out the air under pressure which counteracts the excess braking force. The relationship between these pressures is varied by shifting the beam fulcrum, thus giving a range of counteracting pressures from zero to maximum.

A new device now being tried on freight vehicles has the dual function of semi-

No. 24 driver's brake valve with top section designed for freight service

automatically isolating the auxiliary and emergency reservoirs and "bleeding" brake-cylinder pressure before shifting vehicles, as in hump shunting, and automatically restoring the normal arrangement when the brake system is recharged before moving the wagons again. A device known as a brake-cylinder release valve isolates the reservoirs and vents the brake cylinder, when the "bleed" valve is pulled, thus momentarily permitting the shunter to pass from one vehicle to the next without waiting. The time to release the cylinder pressure, and later to recharge the brake system, is reduced to a fraction of that hitherto necessary.

L.M.S.R. Permanent Way Developments—2

(*Concluded from page* 122)

can be laid in six hours, and the speed restriction of the usual 15 m.p.h. taken off completely 24 hours later.

With the one-crane method of relaying, the operation is somewhat similar to that with two cranes, but, as the crane lifts out the old track in addition to laying in the new, only one engine with crew, and one crane with crew, are required. The speed of work is less by this method, and the length of track dealt with consequently reduced. For comparison purposes, with normal relaying procedure by the piecemeal or "lumping" method, about 60 men would be required for laying in the length of track referred to above, and the opening out of the ballast from between the sleepers would have to be carried out before actual relaying. The speed restriction of 15 m.p.h. would, therefore, be in operation for about a week, and, in addition, further occupations of the track would be necessary for loading up the old materials. The old material in pre-assembled lengths is taken to a suitable depot for dismantling, and a crane is made available for lifting and stacking the old materials as dismantling progresses.

The advantages of crane relaying are briefly: Greater speed of relaying; 2, overall time of track possession reduced to the minimum; 3, time over which speed restriction prevails is lessened; 4, pre-assembly of track is effected under conditions which ensure a good fitting-up of components by specialist staff; 5, track components are less liable to maltreatment when laid in properly assembled; 6, reduced manual effort; and 7, old materials being currently loaded up, tidiness of track is assured.

The "Train of Tomorrow"

An experimental train sponsored by General Motors which has many novel features and is now on an exhibition tour of the United States

There is accommodation for 18 diners in the "Astra-Dome" section of the dining car

SUGGESTIONS for a new design of railway coach having a glass dome as its main feature originated with General Motors in the summer of 1944. After these suggestions had received the approval of railway executives from all parts of the U.S.A., coaches with glass domes were tried out in the latter part of 1945 on the Burlington lines, and the experiment was well received.

Train of Four Coaches

In view of this initial success, which was referred to briefly in our issue of January 4, 1946, page 9, the originators of the idea decided on a further step, with the result that an entirely new train of four coaches, embodying additional innovations, recently has been completed. This train is now touring United States cities drawn by a post-war standard 2,000 b.h.p. Electro-Motive diesel locomotive.

It was not the intention of General Motors to go into business as builders of coaching stock, however, and for this reason a number of established firms were invited to submit proposals for constructing the new train, with the result that the Pullman-Standard Car Manufacturing Company was given an order to build the four coaches in collaboration with the design staff of General Motors and engineers of the Electro-Motive Division.

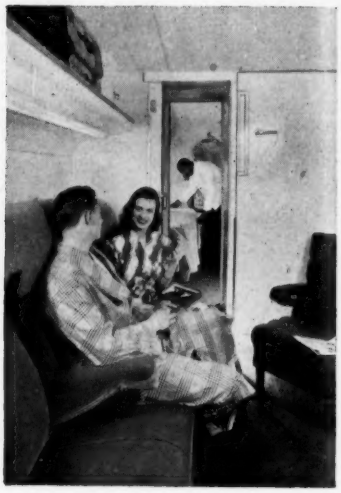
The train is 411 ft. in length, including the locomotive, which is 71 ft. long, and it comprises a chair coach, dining car, sleeping car, and lounge coach, each 85 ft. long by 15 ft. 6 in. high from rail to dome roof. The exterior finish is blue and silver. It is light enough for economy in running, though heavy enough for comfort and safety, and it weighs approximately 410 tons (of 2,240 lb.) empty and 436 tons loaded. The train will seat 216 passengers.

Each of the four coaches has an "Astra-Dome" space 20 ft. long by 10 ft. wide and rising 2 ft. above the level of the coach roof. Ample headroom is provided by a 6 ft. 2 in. depressed aisle running through the compartment. The framework of the dome is of steel, with windows made of tempered glass and plastic, ensuring maximum safety and adequate protection from heat and glare.

The special preparation used for the windows throughout the train is known as Thermopane, and consists of two panels of glass separated by a dehydrated air space hermetically sealed at the factory by a metal-to-glass bond. The outside sheet is heat absorbing and glare resisting, while the inside sheet, which is made up of a laminated safety glass similar to that used on motorcars, consists of two panes of glass with an inner layer of plastic.

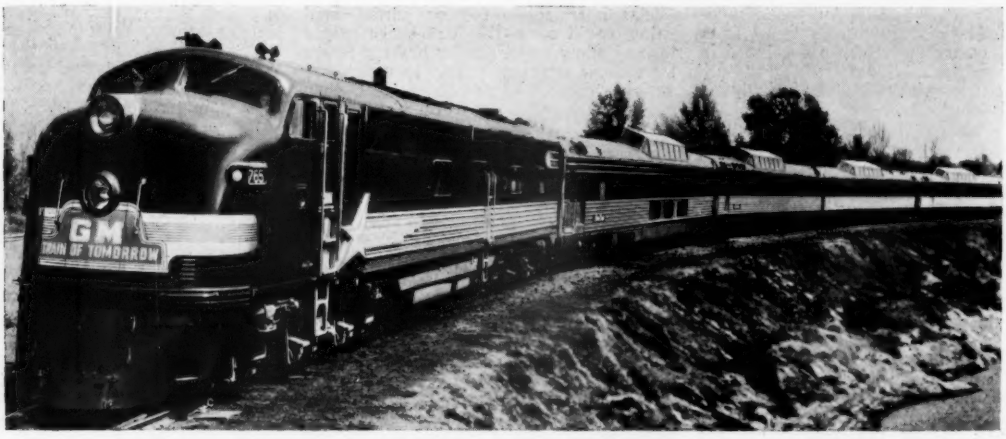
Chair Coach

The chair coach weighs 71 tons loaded and seats 72 passengers. There are seats for 28 in the forward and rear main sections, and there are 20 seats in the lower level section beneath the dome. There are 24 seats in the dome itself, and, therefore, since the ordinary type of modern coach seats 52 on an average, the dome car considerably increases passenger capacity if the dome seats are sold. The seats are of "Sleeping Hollow" design.



Two-berth sleeping compartment converted for day use

The lower-level section of this coach has three semi-private compartments, two of which seat seven persons and the other six, and these have been arranged specially for family grouping or parties. The forward section has 16 seats arranged in pairs on each side of the aisle, and the rear section has 12 seats, these being reversible so that four persons can face each other if desired. At the rear of the



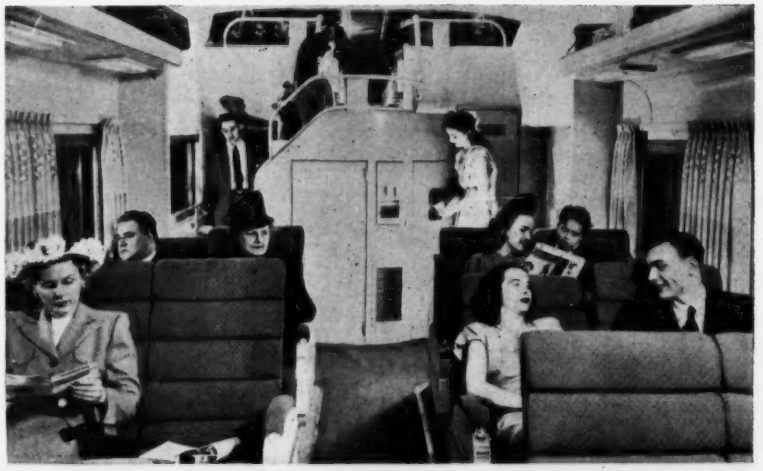
The new General Motors train drawn by a 2,000 b.h.p. Electro-Motive diesel locomotive

The "Train of Tomorrow"

The lounge section of the observation coach with the small cocktail bar in the background

The main section of the dining car of the "Train of Tomorrow" will seat 24 persons

Rear section of the observation coach, showing radio-telephone desk recessed behind the stairway



Main section of the chair coach, showing stairway leading to the "Astra-Dome" above

The cocktail bar in the lounge coach

coach there are two commodious dressing rooms and at the front are two smaller lavatories.

An important feature of the chair coach is the generous luggage accommodation located on either side of the rear exit. Shelves have been fitted which enable luggage to be stored in accordance with arrival stations, and luggage can be unloaded quickly through an outside hatch.

Dining Car Service

The dining car weighs 82 tons loaded and seats 52. There is a table service at three levels. The main dining section, seating 24 persons, is at the rear of the car, with a stairway to the dome leading from it. One side of the car is made up of tables for two and the other side of tables for four. Tables and seats are arranged to allow easy access without disturbing other passengers. In the space beneath the dome there is a private dining room to seat 10 in groups of five, and also the pantry from which both the private dining room and the main dining room are served. One section of the kitchen lies directly beneath the "Astra-Dome" so that the 18 diners there can be served by means of dumb waiters.

The kitchen and pantry are all-electric, and the train has unusual facilities for storing large quantities of fresh and frozen foods, four compact Frigidaire condensing units supplying the necessary refrigeration. The electrical requirements of the train as a whole, which will be referred to more fully later in this article, are supplied by an independent source of power, but the extra needs of the kitchen are met by a further 40 kW. auxiliary unit driven by a 4 cyl. diesel engine. This unit is used only at peak periods. It is installed in a soundproof compartment within the car itself.

More Floor Space in Sleeper

The design of the sleeping car, which weighs 70 tons loaded and has accommodation for 20 persons, provides 50 per cent. more free floor space during daytime than the ordinary type of sleeper. The car consists of three compartments, each with two berths, two drawing rooms with three berths each, and eight single roomettes.

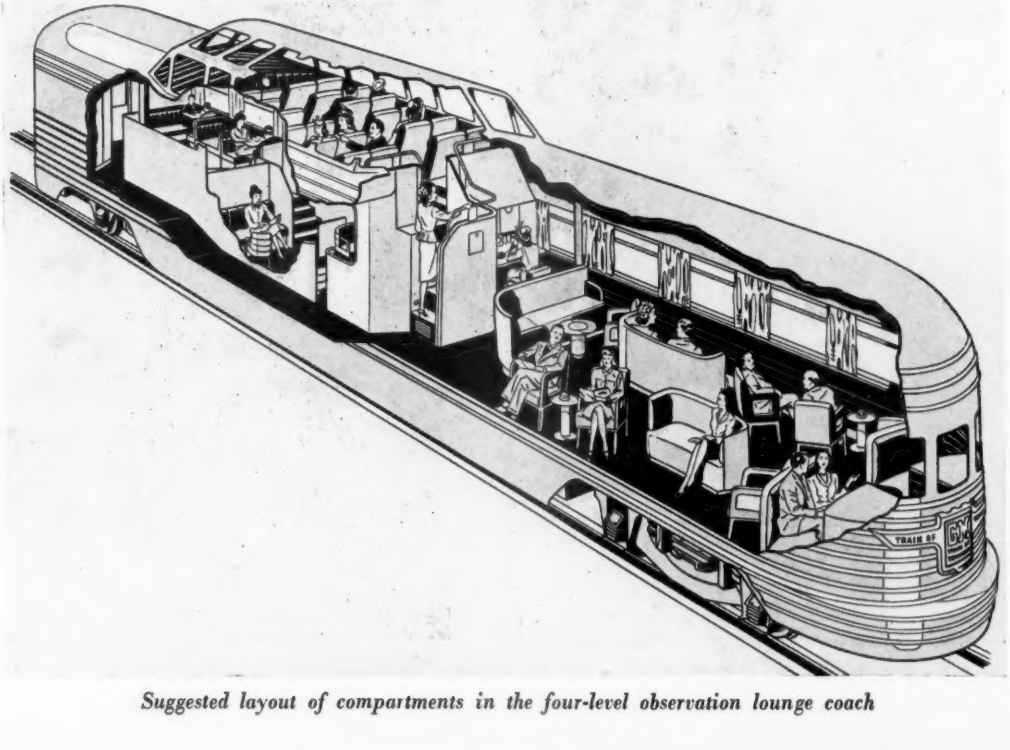
In addition to the chairs and sofas in the individual compartments, drawing rooms, and roomettes, there are 24 seats in the dome. All berths are installed lengthwise of the train. There are ample toilet facilities, and each roomette is equipped with wash basin, lavatory, and baggage storage space.

The lounge coach, one suggested layout of which is shown in the diagram, weighs 70 tons loaded and has 68 seats at four levels. More than half the seats are movable. The dome section, fitted with 24 reclining seats, is capable of variation for long journeys, enabling sofas, tables, etc., to be substituted for standard seats.

In a sunken area underneath the dome is a small bar, forming an intimate lounge for about a dozen persons, and the forward section of the coach consists of a somewhat larger and more formal cocktail lounge.

The rear observation section, viewed from the centre of the coach, is oval in shape, and allows a more or less unobstructed range of vision. Most of the seats in this section are movable. At the

(*Continued on page* 134)



Suggested layout of compartments in the four-level observation lounge coach

RAILWAY NEWS SECTION

PERSONAL

Lord Melchett has resigned from the board of Imperial Chemical Industries Limited on medical advice. He has been associated with the company both as a Director and in an executive capacity since its formation in 1926, and has been a Deputy-Chairman of the company since 1940.

Mr. F. C. Bishop, M.Inst.T., Southern Divisional Superintendent, Southern Railway, who, as recorded in our July 18 issue, has retired, joined the London, Chatham & Dover Railway as a learner clerk in 1897, and, after the working union of that line with the South Eastern Railway, was appointed a junior clerk at Birchington. He then had experience in all branches of railway work in the country and London areas, and in 1903 was transferred to headquarters, under the Superintendent of the Line, at London Bridge. He served in all sections of that office until 1914, when, on the outbreak of war, he was appointed to the special staff dealing with naval and military movements. After demobilisation he took part in the re-organisation of the timetables, and afterwards had charge of the Main-Line Section of the Timetable and Train Running Departments. Mr. Bishop was appointed Chief Clerk to the Eastern Divisional Superintendent (Dover), Southern Railway, in 1924. He was appointed Assistant Southern Divisional Superintendent, at Southampton, in 1930, and in 1933 was transferred to London as Senior Assistant Superintendent, London Central Division. In October, 1943, he returned to Southampton as Divisional Superintendent. Mr. Bishop is Chairman of the Southern Section of the Institute of Transport for 1946-47, and he has been railway representative on the Poole Harbour Board since 1943, and acted as Vice-Chairman in 1944-45.

Mr. F. C. Bishop
Southern Divisional Superintendent, Southern Railway, 1943-47

Mr. A. Earle Edwards has been appointed Southern Divisional Superintendent, Southern Railway, in succession to Mr. Bishop.

Mr. Duncan I. McNeill, K.C., has been appointed Vice-President of Personnel, Canadian Pacific Railway.

Mr. Trevor L. Davies, Costs Officer, L.P.T.B., has been appointed to succeed the late Mr. P. A. Phillips as Accounts Officer.

We regret to record the death on July 21, at the age of 55, of Mr. Charles Eustace Rooke, C.M.G., M.Inst.T., a Director of the Nyasaland Railways Limited, Central Africa Railway Co. Ltd. and Trans-Zambesia Railway Co. Ltd., and previously General Manager of the Nigerian Railway. He was educated at Grange School and Dover College, and his first railway position was in the Goods Manager's Office, Holborn, South Eastern & Chatham Railway, which he joined in 1909. A year later he was appointed Timetable Clerk & Assistant Train Inspector, Argentine North Eastern Railway. In 1912 Mr. Rooke joined the Bombay, Baroda & Central India Railway as Probationary Assistant Traffic Superintendent, and in 1914 he was appointed Assistant Traffic Manager of the Uganda Railway. He joined the Indian Army in East Africa, and served from 1915 until he was invalided in 1917. From 1919 to 1929 he was Assistant Traffic Manager, Federated Malay States Railways, and he was appointed General Manager, Cyprus Government Railway, in 1929, which post he held until 1935. He was also Acting Commissioner, Cyprus Civil Service, from June, 1934, until March, 1935. Mr. Rooke was appointed Traffic Manager, Tanganyika Government Railways, in 1935, and became Chairman of the Central Publicity Committee. He was appointed Chief Traffic Superintendent, Nigerian Railway, in September, 1937, and acted as General Manager in the latter's absence; he became General Manager early in 1942, from which position he retired at the beginning of 1944. After his retirement he was employed for a time by the Foreign Office (Relief Department) on duties in connection with the Inter-Allied Inland Transport Committee, and for a short period in 1946-47 he served as Inland Transport Adviser to the Secretary of State for the Colonies. Towards the end of 1944 he was appointed by the Colonial Secretary to inquire into, and advise on, railway and road transport rates and charges, and road transport organisation and development generally, in Nyasaland; and last year he was a member of a mission which investigated oil seed production in West Africa.

The late Mr. C. E. Rooke
General Manager, Nigerian Railway, 1942-44

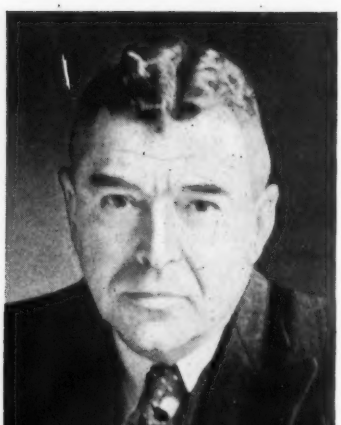
Rai Bahadur B. N. Chopra, B.A. (Honours), M.I.E. (India), who has been appointed Chief Engineer, Bengal Assam Railway, graduated in civil engineering in 1919, and joined the North Western Railway, India, as Assistant Engineer in the same year. He remained with the N.W.R., filling various engineering posts, until he was transferred to the B.A.R. in 1940. Before taking over his present position he was Engineer-in-Chief, Locomotive Building Project, Kanchrapara.

Rai Bahadur B. N. Chopra
Appointed Chief Engineer, Bengal Assam Railway

We regret to record the death on July 4, in his 66th year, of Mr. W. F. Drysdale, O.B.E., a Vice-President of the Montreal Locomotive Works Limited.

Mr. T. M. Priestley, who is retiring from the City, as a first step has resigned from the board of the Manila Railway Co. (1906) Ltd., in favour of Sir Samuel Findlater Stewart.

Mr. E. Rhodes, B.Sc., A.R.I.C., Assistant Chief Chemist, L.N.E.R., has retired. He joined the Great Northern Railway in 1905, and in 1912 was promoted to be Chief Assistant to the Analyst. In 1925 he was transferred to the Stratford laboratory, L.N.E.R., and in 1930 was appointed Assistant Chief Chemist. He represented the Chief Chemist on many R.C.H. committees, and was Chairman of the Chemists' Committee for five annual terms of office. Mr. Rhodes has considerable experience of the scientific problems connected with the storage and carriage of explosives and dangerous goods of all kinds.



Mr. J. E. Rigby

Appointed District Goods Manager, Bolton, L.M.S.R.

Mr. S. Scarisbrick

Appointed Assistant to Chief Commercial & Chief Operating Managers (New Works, Accommodation & Private Sidings), L.M.S.R.

Photo] [*Lafayette*

Mr. W. H. Prendergast

Appointed Professor of Civil Engineering, University College, Galway

Mr. J. E. Rigby, Assistant District Goods Manager, Manchester, L.M.S.R., who, as recorded in our June 27 issue, has been appointed District Goods Manager, Bolton, commenced his railway career in 1906 as a joint L.Y.R. and L.N.W.R. goods, passenger and telegraph clerk. Seven years later he was transferred to the Bolton District Goods Manager's Office, where he served in various capacities. Mr. Rigby subsequently held appointments as Goods Agent at Todmorden and Moses Gate, but in 1930 he was withdrawn from his station duties to serve on various district and headquarters clerical and re-organisation committees. In 1933 he was transferred to the Manchester District as Assistant Agent for Accounts, returning to the Bolton District in 1935 as Goods Agent, Burnley, which position he held until April, 1938, when he was appointed to be Goods Agent, Preston. During his term of office at Preston he acted as a lecturer at the L.M.S.R. School of Transport at Derby. Mr. Rigby returned to the Manchester District in January, 1940, as Goods Agent, Oldham Road. In March, 1942, he became Operating Assistant to the Manchester District Goods Manager, and he has subsequently held appointments as Assistant District Goods Manager, Bolton; Agent for Accounts, Manchester; and Assistant District Goods Manager, Manchester.

Mr. S. Scarisbrick, who, as recorded in our June 27 issue, has been appointed Assistant to Chief Commercial & Chief Operating Managers (New Works, Accommodation & Private Sidings), L.M.S.R., was educated at Prescot Grammar School, and in 1913 joined the L.N.W.R. in the District Superintendent's Office, Liverpool. During the 1914-18 war he served for three years in France and Belgium with the Liverpool Scottish, and was wounded at Passchaendale Ridge. After further service with the L.N.W.R. he was transferred to the Divisional Superintendent's Office, Manchester, and, in 1925, to that of the General Superintendent (Passenger Commercial), Derby, L.M.S.R. In 1932 he went to the then newly-formed Chief Commercial Manager's Office at Euston. Mr. Scarisbrick was one of the "first-fifty" students attending the opening session of the L.M.S.R. Derby School of Transport, where he subsequently lectured. In 1939 he was made Assistant District Controller, Kentish Town, and, after a period in the Passenger Trains Office at Euston, he was appointed Assistant District Passenger Manager, Leeds. In 1944 he became Chief Clerk, Chief Commercial Manager's Office, and later held the position of Deputy Assistant to Chief Commercial & Chief Operating Managers (New Works, Accommodation & Private Sidings).

Mr. E. L. Taylor, Secretary of Barton Transport Limited, has been appointed to the executive staff of the British Electric Traction Co Ltd., from October 1 next.

Lt.-Colonel H. B. Everard (Engineer, Permanent Way, L.M.S.R.) was invested with the D.S.O. by the King on July 29.

Mr. Howard C. Wick has been elected a Director of the American Car & Foundry Company. Mr. Wick has been associated with the company for many years and has been Secretary since 1916.

The Council of the Institute of Transport has decided to confer on Mr. Charles E. Lee, A.M.Inst.T. (Associate Editor, *The Railway Gazette*), the Road Transport (Passenger) Medal (1947) for his paper on "Voluntary Organisation in the Passenger Road Transport Industry." In 1945 Mr. Lee received a Railway Companies' Association Award for his paper on "Passenger Class Distinctions."

The Chairman of the newly-appointed Industrial Coal Consumers' Council is Sir Ernest W. Smith. The National Coal Board is represented on both that council and the Domestic Coal Consumers' Council by the Deputy-Chairman (Sir Arthur Street), and the Marketing Director (Mr. J. C. Gridley), and among other members of the Industrial Coal Consumers' Council is Mr. T. E. Chrimes, Superintendent of Motive Power, Southern Railway. The Secretary of both councils is Mr. H. L. de Bourcier, Ministry of Fuel & Power.

Mr. W. H. Prendergast, D.S.O., M.I.C.E., M.Inst.T., who has been appointed Professor of Civil Engineering, University College, Galway, Eire, was commissioned in the Royal Engineers in 1917 and served in the Mesopotamian campaign. After the armistice he was appointed Assistant Engineer, Irrigation Department, Mesopotamia. In 1921 he joined the Assam-Bengal Railway, and in 1926 was promoted to be Executive Engineer, Construction, and, in 1934, Deputy General Manager. In 1939 Mr. Prendergast spent six months on the L.M.S.R. studying research methods. During the recent war he was in command of 105 Railway Construction Company, Indian Engineers; after commencing the doubling of the line to Baghdad he was promoted Lt.-Colonel, and in January, 1942, was posted to Burma. He was awarded the D.S.O. and was mentioned twice in despatches. On returning to India Mr. Prendergast became Assistant Director, Transportation, at Lahore and Bombay. In 1943 he was recalled to the newly-constituted Bengal Assam Railway, of which the former Assam-Bengal Railway had become part, as Engineer-in-Chief, Construction, at Gauhati, on the important line of communication to Upper Assam. On the cessation of hostilities he was Deputy Chief Engineer, Calcutta, and he retired in January, 1947.

PRESENTATION TO MR. C. N. MANSFIELD

To mark the occasion of his retirement from the position of Mineral Manager & Principal Assistant to the Chief Commercial Manager, L.M.S.R., Mr. C. N. Mansfield recently was handed a gift by his colleagues of the Railway Clearing House Goods Managers' and Mineral Managers' Conferences. In making the presentation, Mr. A. E. Hammett (Southern Railway), Chairman of the Goods Managers' Conference, spoke of the great regard in which Mr. Mansfield was held by the Goods Managers and Mineral Managers. Mr. Mansfield responded by thanking his colleagues for their gift, and said that his enjoyment of his work had been contributed to largely by the ready assistance and co-operation he had always received from his railway friends.

Antofagasta (Chili) & Bolivia Railway Co. Ltd.

The annual general meeting of the Antofagasta (Chili) & Bolivia Railway Co. Ltd. was held at Winchester House, Old Broad Street, London, E.C. 4, on July 31, Mr. H. C. Drayton, Chairman of the company, presiding.

A statement by the Chairman which was circulated with the report and accounts said that net receipts from the operation of the railway and waterworks for the past year were £276,071, an increase of £26,024. Gross receipts of £1,786,216 showed an increase of £187,594. This was due to the higher tariffs in force, although both passengers and goods traffics were less than in 1945. Traffics were affected adversely by the strike on all railways in Bolivia during the first ten days of June; also, owing to labour troubles, the production of copper bars at the mine of the Chile Exploration Company in Chile ceased throughout the same month.

Traffics in general merchandise, coal and coke, flour and gasoline gave increased tonnages. Gasoline, which was a long-haul traffic, mostly for Bolivia, had developed in recent years, and last year they carried nearly 9,000 tons. Working expenses showed an increase of about 12 per cent. compared with 1945. The salaries and wages bill, with the consequential increased contributions under the various social laws, accounted for about 83 per cent. of the increase. Local taxation and higher prices for material generally explained the balance, although there was some saving in the fuel bill due partly to lower costs of fuel oil during the early months of the year and partly to the conversion of more locomotives to burn fuel oil. Practically all their locomotives were now oil burners.

A contribution of £50,000 was made from the net revenue account to renewals account; in addition, £29,600 was debited to working expenses. After allowing for charges less credits during the year, the balance of £1,440,704 of renewals account was £35,504 more than at the end of 1945. They had also appropriated £20,000 to renewals account for the leased lines. For a good many years past that account had shown no variation, the contributions having been restricted to an amount sufficient to cover the actual expenditure.

Traffic receipts for the current year to date showed an increase of £186,000, which reflected the increases in tariffs which came into force on the Chilean section on June 16, 1946, and on the Bolivian section on July 1, 1946. Traffics this year should be maintained at about the same level as for 1946. On the other hand, expenses both for labour and materials continued to rise. The Chilean law which provides for annual adjustments of salaries in accordance with the cost of living, together with the consequential increases in the contributions under the various social laws and for family allowances, as well as increases in the wages of their workmen in Chile, would involve additional expenditure of approximately £172,000 per annum. Application was made to the Chilean Government for an increase in tariffs, and he was glad to say that this had been granted and that, as from June 23, 1947, the tariffs of their Chilean section had been increased by 13 per cent.

The past rainy season in Bolivia was the severest on record. Their line into La Paz suffered severely from a landslide. It would be appreciated that this entailed a substantial cash outlay to put the lines concerned into working condition, and it was these unforeseeable occurrences that imposed on the directors a cautious policy when dealing with the division of the available cash resources of the company.

The report and accounts were adopted.

Argentine Railways Sale Meetings

On July 24, the stockholders of the various classes of securities of the Buenos Ayres Great Southern Railway Co. Ltd. met to consider the scheme of arrangement between the Argentine Government and the British-owned railways in Argentina. Sir Montague Eddy, chairman of the company, presided.

The Chairman explained that any holder who voted against the proposals would be able to present his case before the Courts when the scheme, if approved, was submitted for confirmation. In reply to a question as to why the proposals had not been submitted to the Association of Investment Trusts or some similar body, the Chairman said that this would have given the trusts an unfair advantage over other stockholders.

If the scheme was approved and confirmed by the Court, the Argentine Government would be informed and asked to ratify the agreement. He hoped that this would be completed by the end of September. On ratification the purchase money was to be made available within 30 days, and this would allow for almost immediate repayment of debenture holders. It was hoped that it would be possible to make an interim payment to preference and ordinary shareholders before the end of the year.

Mr. Austin Kavanagh expressed the view that preference stockholders had been sacrificed for the benefit of the ordinary stockholders, who were to receive over £4 million, representing 20 per cent. of their capital, and he said that he intended to bring the matter before the Courts later.

Sir Montague Eddy replied that the board had divided the total amount in what it considered the fairest manner. The proposals had then been submitted to an independent panel, which had made only minor alterations.

Replying to several questions, Sir Montague Eddy stated that directors' fees of the company and its subsidiary Bahia Blanca & North Western Railway, amounted to £51,000 over three years. The board had decided on £40,000 as a reasonable figure. The voting at the class meetings of the Buenos Ayres Great Southern and Bahia Blanca & North Western Railways was later announced to be:—

BUENOS AYRES GREAT SOUTHERN

—	For		Against	
	Stock-holders	Repre-senting £	Stock-holders	Repre-senting £
4% deb. ...	5,798	9,293,733	8	6,873
5½% red. deb.	647	1,362,443	3	800
5% pref. ...	3,098	2,903,552	38	56,724
6% pref. ...	3,496	3,291,205	43	64,500
Ordinary ...	7,283	11,836,866	68	78,641

BAHIA BLANCA AND NORTH WESTERN

4% 1st deb. ...	809	1,288,834	1	1,500
4½% 2nd deb.	1,294	1,372,298	4	1,350
Gd. stock ...	1,544	2,257,656	2	800

Buenos Ayres Western Railway

On Friday, similar meetings were held of stockholders of the Buenos Ayres Western Railway Limited. Sir Montague Eddy presided.

The Chairman, in replying to some discussion on the amount of compensation to be paid to the staff, stated that the staff concerned numbered 260 in Argentina, and in London 150 persons who were jointly employed with Buenos Ayres Great Southern Railway. In addition, some former employees already were receiving pensions. No individual would receive a sum greater than three years' salary.

Mr. Barnabas Russell stated that he intended to oppose the scheme when it came before the Courts.

The Chairman announced that proxies already received by the board were overwhelmingly in favour of the scheme. The results of voting were:—

B.A. WESTERN

Stock	For		Against	
	Holders	Repre-senting £000's	Holders	Repre-senting £
4% deb. ...	2,660	4,650	13	5,086
5% deb. ...	296	530	2	600
5½% col. deb.	25	166	Nil	—
5% pref. ...	191	107	1	400
4½% pref. ...	984	1,131	8	6,120
Ordinary ...	4,098	6,937	42	48,852

Buenos Ayres Midland Railway

Meetings of the Buenos Ayres Midland Railway were held on Friday afternoon. There was no discussion, and all resolutions were approved. Results were:—

B.A. MIDLAND

	For		Against	
	Holders	Repre-senting	Holders	Repre-senting
4% deb. ...	530	1,520	1	200
Preference ...	289	618	Nil	—
Ordinary ...	16	497	Nil	—

Central Argentine Railway

On Monday last the various classes of the stockholders of the Central Argentine Railway met. Lord Forres presided.

A stockholder proposed an amendment to the effect that all stocks other than the ordinary should be scaled down by 5 per cent. and the proceeds added to the amount to be paid to the ordinary stockholders, but this amendment was lost on a vote.

Lord Forres, replying to questions, said that the holders of bearer notes were to be repaid at 110 because the holders of these notes had the option to convert into debenture stock at the rate of £110 for each £100 held.

He also said that there were 380 British staff in Argentina and 40 in London. Compensation for the staff was based on a sliding scale which provided for a maximum of three years' salary to employees over the age of 50 with a minimum of 18 years service.

It was announced later that proxies received by the board were as follow:—

CENTRAL ARGENTINE

Stock	For		Against	
	Proxies	Amount £000's	Proxies	Amount £
3½% "C" deb.	10	13	—	—
4% deb. ...	4,878	8,451	7	13,598
5% red. deb.	3,551	4,122	10	3,992
5% N.C. red. deb. ...	28	223	—	—
5½% bearer notes	91	711	—	—
Do. (interest coupons)	55	205	1	206 5 0
Interest certs.	34	5	—	—
4½% pref. ...	3,948	4,067	58	48,046
6% pref. ...	1,933	2,742	46	51,493
Con. ord. ...	8,180	12,100	82	157,852
Deferred ...	401	300	8	17,215

Buenos Ayres & Pacific Railway

Meetings of stockholders of the Buenos Ayres & Pacific Railway were held on Tuesday last. Mr. H. C. Drayton presided.

There was little discussion and the results of the voting, announced later, were as follow:—

Stock	For		Against	
	No.	Amount £000's	No.	Amount £
First deb. ...	1,050	1,383	1	125
Second deb. ...	909	1,098	3	1,875
4½% cons. deb.	3,242	3,736	3	1,750
5% (1912) deb.	2,381	3,491	3	5,500
First pref. ...	530	478	4	8,304
Second pref.	349	446	1	100
6% pref. ...	895	1,046	11	2,800
Ordinary ...	2,830	4,171	39	55,176

G.W.R. Steamer Visits Cork

Last week, the new G.W.R. steamer *St. David* paid a courtesy visit to Cork before commencing service on the Fishguard-Rosslare route, and on Thursday, July 24, a dinner was held aboard the vessel in Cork Harbour, which was attended by many persons prominent in the life of the city.

The Earl of Dudley, Deputy-Chairman, G.W.R., was in the chair in the absence of Lord Portal, and proposed the toast of the City of Cork. They were very proud, he said, to have there that night eight survivors of the old *St. David*, which was sunk by bombing off Anzio beachhead.

ANOTHER NEW VESSEL

Sir James Milne, General Manager, G.W.R., said that his company had spent £500,000 on the new vessel, and they had another coming out in a few months on which they were spending a like sum.

On arrival at Fishguard, the Earl of Dudley spoke at a luncheon to mark the inauguration of the Fishguard-Rosslare service. He said that in 1938, which was the last full year of the service, G.W.R. ships carried 100,000 passengers.

"We on the G.W.R. stand before you as people condemned and about to die," he added. "However, whether that be for good or evil, the service will continue, and what is more, the important tradition of the G.W.R. will still go on."

Re-opening of York Railway Museum

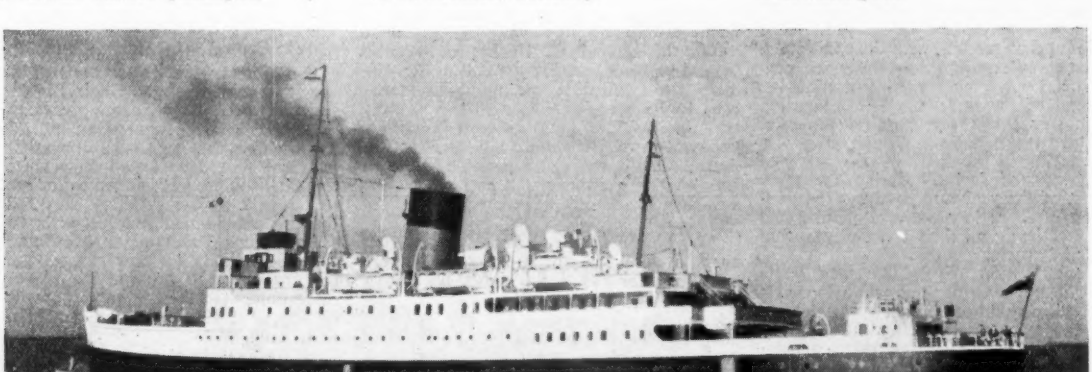
The York Railway Museum, which was closed for practically the whole of the war period, was re-opened on Friday, July 18, by Sir Ronald Matthews, Chairman of the L.N.E.R. Accompanying Sir Ronald Matthews were his co-directors, Mr. Geoffrey H. Kitson, Chairman of the N.E. Area Board, Colonel W. H. Carver, Sir William Gray, Mr. A. H. S. Hinchliffe, and the Hon. W. Leslie Runciman.

L.N.E.R. officers present included Mr. Miles Beevor, Chief General Manager, Mr. C. M. Jenkin Jones, Divisional General Manager, North Eastern Area, Mr. A. H. Peppercorn, Chief Mechanical Engineer, Mr. E. Coleby, Chief Legal Adviser, Mr. W. H. Johnson, Secretary.

Sir Ronald Matthews, who was introduced by Mr. Jenkin Jones, said that the Museum was a national one, inasmuch as the other railway companies had asked the L.N.E.R. to become custodians of a lot of their most valued material, apart from that which the constituent companies of the L.N.E.R. had got together just before the grouping.

In addition to the larger exhibits, which included the first iron railway bridge in the world, as well as many ancient carriages and a collection of specimens of permanent way material, there was the "small exhibits" section, unfortunately not housed under the same roof, but which nevertheless included prints, drawings, and articles of immeasurable value. He paid a well-deserved tribute to the Hon. Curator, Mr. E. M. Bywell, who, in restoring the Museum into a condition ready for opening, had been ably assisted by Mr. John Dixon, a recently retired member of the Engineer's staff at York.

The Museum now remains open from 10 a.m. to 4 p.m., Mondays to Saturdays inclusive, and is in charge of Mr. J. H. Lister, who has recently retired from the post of Passenger & Parcels Agent at West Hartlepool.



The new G.W.R. steamer "St. David" for the Fishguard-Rosslare service

The "Train of Tomorrow"

(*Concluded from page* 130)

rear of the lounge, recessed behind the dome stairway, is a desk fitted with radio telephone, clock, radio control, etc., and a microphone connected with loudspeakers throughout the train. There is a plug-in telephone for use when the train is at a station and also an intra-train car-to-car telephone system for use by members of the train crew only. Smoking is permitted in all the coaches of the train.

Special attention has been paid to the radio telephone equipment on this train. Briefly, the system used enables calls to be made to any place in the world—provided the train is within 25 miles of the 30 or more cities having the necessary installations—by a combination of radio and local or long-distance telephone lines. Subject only to the same limitations, passengers on the train may receive calls from all parts.

The development of train air conditioning, refrigeration, lighting, etc., in recent years has resulted in a considerable increase in electricity requirements. When air conditioning consisted of air blown by fans over blocks of ice, which had to be renewed at every station stop, the demand for electricity could be met adequately by generating equipment operated by rotation of the axles. Even then, though this system had the virtue of simplicity, it was inefficient and resulted in loss of speed and frequent dimming or flickering of lights, due to the locomotive having to combat extra drag.

Independent Power Supply

A solution has been found in what is known as a "power package" which consists of an independent diesel engine and generator mounted under each coach of the train, making each coach quite self-contained so far as electrical power is concerned.

This permits each coach to be uncoupled without interference with any of the power services. As a safeguard against the breakdown of any particular unit, there are connections for tapping into the circuit of an adjoining coach.

The power package is mounted on rollers and the entire unit may be rolled out for inspection and maintenance. The unit is fully enclosed beneath the coach to protect it from dirt and extremes of temperature.

For air conditioning, there is a 10-ton cooling system installed in each coach, complete with conditioner, ducts, compressor, and condenser units. This system produces a cooling effect equivalent to the melting of 10 tons of ice a day, slightly more than half of which is applied to the lower portions of the coaches, and the remainder to the dome, which, although relatively small, requires proportionately greater cooling power on account of its exposure to the heat of the sun.

The conditioner cools or heats the air and circulates it; ducts, ingeniously built into the coach structure, convey the conditioned air to all parts of the coach and deliver it without draughts. The controls are automatic, and regulate temperature and humidity as desired at all seasons and in all climates.

The Transport Bill

House of Commons considers Lords amendments

In the House of Commons on July 23, when consideration was given to the Lords amendments to the Transport Bill, Mr. Alfred Barnes, Minister of Transport, said that there were 10 major issues, involving 42 amendments, on which the Government would ask the House to disagree with the Lords. There were some 240 amendments in all, and 200 of these were mainly drafting amendments, or agreements which had been reached at discussions.

He would advise the acceptance of these 200 amendments, limiting the discussion to the major issues on which they disagreed with the Lords, which were limitation of the powers of the executive and the appointment of executives, Scottish Transport Executive, doubling of the mileage limit for road haulage, exclusion of "A" contracts, exclusion of milk transport, onus of proof, subordination of the licensing authority, decision of referees on staff compensation, and procedure at inquiries.

Direction to the Commission

Mr. Barnes then moved that the House disagree with an amendment which provided that the Minister should give no direction to the Commission which would prevent it paying its way. He was informed that it was doubtful, even if the amendment was accepted in its present form, whether it would actually limit these powers, but they knew from experience that it might under circumstances of national emergency be the subject of legal action for the purpose of delaying any action which the Government of the day might take.

Mr. R. Assheton (City of London—C.) said that if the Minister gave a direction which resulted in losses falling on the Commission, the Commission might not be able to recoup those losses, and a situation might arise in which the Commission would be making a loss whether it wanted to or not.

The Lords amendment was rejected by 295 votes to 148.

Mr. Barnes moved the rejection of an amendment which sought to provide for the appointment of executives by the Transport Commission rather than by the Minister. He said that the Opposition had claimed that this would lead to patronage. It was usually when persons of the wage-earning class were concerned that this was raised. More than a million persons would be employed in the nationalised transport industry, and it should not be run by persons drawn from a limited class of the community.

Sir David Maxwell Fyfe (Derby West —C.) said that what was worrying the Opposition in these nationalisation schemes was the largely increased political patronage which would be in the hands of Ministers. It was putting too big a strain on the Minister and on members of Parliament to have in front of them an ever-growing number of jobs which they could get from one of their political leaders on the front bench. It was a danger, not only in the working of nationalisation schemes, but in the working of democracy.

Mr. O. B. S. Poole (Oswestry—C.) said the Minister was going to say to the Commission that it was to be responsible for an enormous task, but that it was not capable of choosing the executive which was to put its policy into operation. Divided responsibility at the top automatically meant failure.

Mr. Beverley Baxter (Wood Green—C.) remarked that the Minister of Fuel & Power had said he would not appoint to the Electricity Board any man who did not believe in nationalisation. Was the Minister of Transport going to take the same attitude?

Danger of Patronage

Mr. H. G. Strauss (English Universities—C.) asked how could the Commission be held responsible if it was not even entitled to choose its own servants and agents. Power of the executive through patronage was a matter of great importance which in the past had legislative and other checks. The Minister made it clear that he desired patronage; that was why he welcomed this Bill. One of the things he wondered was whether the Government were unable to accept the amendment because of the promises already made to fill these positions.

When Mr. Barnes intervened to ask what justification there was for this, Mr. Strauss said he had pointed out that the position which the Minister was defending was utterly wrong from the point of view of the structure of the Bill, and strengthened his own suspicion that its object was to secure, what it undoubtedly did secure, increased power of patronage. "I say that it is an open secret how the Minister has already planned to fill some of the positions on the Commission."

Mr. Barnes: "What I want to submit directly to the member is that he should submit evidence of that, or else he should withdraw it."

Mr. Strauss: "I say that the post of Chairmanship on the Commission is going to be filled by Lorth Latham. I also say that I am highly suspicious of why this amendment is being resisted, and my belief is that a good many indications have been given to people who are likely to fill some of the positions."

Mr. Barnes: "I have taken particular care to avoid this situation. There is not an atom of truth in what has been stated and I demand its withdrawal. The person Mr. Strauss referred to has never had any contact with me. I have never made any statement to any person and I have never considered that individual."

Mr. Strauss: "If the Minister says that no promises have been made, of course I withdraw it, but my main point remains. The Government has made it clear that it is quite in order to fill these appointments with its political supporters, and I say there is a very strong rumour of how one appointment is to be filled."

Mr. Strauss concluded his speech amid continuous uproar from the Government side of the House. There was no doubt, he said, that the structure of the Bill would be improved by accepting the amendment. It would also have the effect of diminishing the opportunity of patronage.

Mr. C. York (Ripon—C.) said that if the Minister would appoint the executive purely on its merits there would be no complaints from any part of the House. The Opposition was trying to prevent the worst features of political patronage. The Minister was an honest man, but they could not guarantee that all future Ministers of Transport, of any party, would be honest and straightforward. There could be no doubt that resistance to this amendment put power into the hands of future Ministers to distribute political patronage far and wide.

Major R. H. Turton (Thirsk & Malton —C.) could not see that they were going to have transport run competently if at any time the Minister could appoint to the Executive a man who had not the confidence of the Commission. This country had a great reputation for honesty in public life, and he was afraid that these nationalisation measures were being regarded in the country as a good opportunity for corruption. The rumours which Ministers had to contradict showed that danger. Surely the wisest way was to remove opportunity for these rumours.

Mr. Herbert Morrison, Leader of the House, said that the Railway Executive would be responsible under the Transport Commission for the running of the whole of the railway system, and the Road Transport Executive would be similarly responsible for the whole of the road transport system.

It would be wrong from the parliamentary point of view if there were no Minister accountable for the appointment of these executives. The House would not be much older before it complained when the Minister said that he had no responsibility for the appointments. If the Minister were not responsible it would be useless for the Opposition hereafter to question the Minister.

Mr. Morrison added: "The Minister of Transport is not the sort of man to indulge in any irregular practice. Mr. Strauss should prove such an accusation— or withdraw it."

Mr. Strauss: "Whatever accusation I made, applied to the whole Government, and not to Mr. Barnes."

The Lords amendment was rejected by 304 votes to 143.

Scottish Transport Executive

Mr. Barnes then moved the rejection of an amendment which sought to set up a Scottish Transport Executive. He said that if this was accepted, there was no guarantee that it would work, and the Lords had not indicated what duties this executive would have to perform. It would become a separate Scottish Transport Commission, and the machinery for area transport and port schemes covered all the legitimate desires of Scottish needs.

Lord John Hope (Midlothian & Peebles —C.) said that if this amendment was not accepted the Government would greatly foment the question of Scottish nationalism.

Col. J. R. H. Hutchison (Glasgow Central—C.) said that those who represented Scottish constituencies could not help being aware of the growing feeling that the centralisation of Scottish interests was in London.

The motion to disagree with the Lords amendment was carried by 314 votes to 129.

Long-Distance Road Haulage

Mr. G. R. Strauss, Parliamentary Secretary to the Ministry of Transport, moved to disagree with the Lords in their amendments which defined long-distance road haulage as over 80 miles instead of 40 miles and empowered road hauliers to operate independently within a radius of 50 miles instead of 25 miles. These were wrecking amendments in so far that, if they were carried, it would be impossible for the Commission to do long-distance road haulage effectively, if at all.

The Commission would not be able to take over any substantial number of long-distance road haulage firms, and the whole

purpose of the Bill, which was to get a properly integrated road and rail service, would be frustrated. If the Commission took over only those vehicles which operated over an 80-mile radius, it would not be able to give really adequate service to industry.

Sir David Maxwell Fyfe said that any test which prevented hauliers going more than 25 miles from their operating centre, and which did not allow them to make a total mileage of over 40 miles, was a test utterly out of reality judged by rural conditions today. Before they took away a business on a plea that it was a long-distance haulage business, they must fix a test which did not offend commonsense, and a 25-mile test offended commonsense.

Mr. F. Byers (Dorset Northern—L.) believed that the Government would go wider than this 25 miles if it was reasonable. What stopped the Government from widening the radius was that it feared competition from road haulage. It was a fantastic way in which to go into public ownership. The reason the Government wanted to take over these vehicles, was not to give the public service, but to get rid of these vehicles as competitors. What it was trying to do, was to clear out of the way competition it knew it could not stand up against, and if it could not stand up against it, then it was a rotten system.

Mr. G. R. Strauss said that the purpose of the Bill was to bring about the integration of transport. Therefore, it was essential if the Bill was to be a success that the Commission be empowered to take over long-distance road haulage. A radius of 25 miles for a local haulier was a very generous one.

The Lords amendment to increase the long-distance road haulage from 40 miles to 80 miles was rejected by 306 votes to 128.

Another Lords amendment to enable road hauliers to operate independently within a distance of 50 miles instead of 25 miles was rejected by 297 to 122.

For over an hour the House discussed the Lords amendment to exclude the carriage of milk from the transport services to be acquired by the Commission. Members of the Opposition argued that the Milk Marketing Board had built up a successful transport system and it would be unwise and undesirable now to break that system up.

Mr. Barnes, however, moved to disagree with the Lords and this was carried by 270 to 106.

There were some 50 Labour members and about 40 Opposition members in the Chamber at 3 a.m. on July 24. At this time, 70 Lords amendments had been disposed of, while about 140 others, many of which were of a minor nature, remained to be dealt with.

Between 3.30 and 4 a.m., when the House was discussing another Lords amendment which provided that "A" and "B" licence holders be allowed to carry goods up to a distance of 50 miles without a permit, several Opposition members, led by Captain Peter Thornycroft (Monmouth—C.) demanded answers to points they had advanced, and on each occasion there were interruptions by Government supporters.

Just after 5 a.m., Mr. Whiteley, Chief Government Whip, brought the subject to an end by moving the closure. The closure motion was carried by 247 to 87, and by the same figures the House decided to disagree with the Lords amendment.

Mr. Barnes moved the appointment of a committee to report to the Lords the reasons for disagreeing with their amendments.

Further Debate in the Lords

In the House of Lords on Tuesday, July 29, the reasons given by the Government for disagreeing with some of the Lords amendments were considered.

Two amendments by Lord Teynham providing for an increase in the radius of operation of long-distance road haulage were carried.

Lord Reading moved an alternative amendment to provide that, after a haulier had given the tribunal all information in his power about the manner in which his undertaking had previously been carried on, the burden of proof should then lie on the party seeking to acquire the undertaking. This was carried.

Another amendment, which was also carried, was moved by Lord Swinton. This provided that an aggrieved "A" or "B" licence holder's appeal to the licensing authority might be referred to the Minister in cases of unfair competition.

An alternative Opposition amendment that the Minister should fix the number and names of the executives only after consultation with the Commission, was accepted by the Government.

These alternative amendments carried against the Government will be considered by the House of Commons, and it will be for the Government to decide whether any of them can be accepted to help in bringing the controversy to an end. If they are not accepted, there will be another debate in the Commons, and another message will go to the Lords giving reasons why the Commons cannot agree with the alternative amendments.

Parliamentary Notes

Southern Railway Bill

The Southern Railway Bill received the Royal Assent in the House of Lords on July 18.

L.P.T.B. Bill

The London Passenger Transport Board Bill was reported to the House of Lords on July 23 from the select committee with amendments.

Questions in Parliament

Earnings of Main-Line Railways

Mr. Ernest Davies (Enfield—Lab.) on July 21 asked the Minister of Transport if he would state the estimated deficiency on the amounts payable under the Railway Control Agreement in respect of the earnings of the main-line companies for 1947 and 1948, respectively; and what action he proposed to take to meet it.

Mr. Alfred Barnes: It is estimated that in 1947 the pooled net revenues of the main-line railway companies will fall short of the fixed annual sums payable to them under the Railway Control Agreement by some £37 millions. The Control Agreement will be terminated at the end of this year when the railways will pass to the British Transport Commission, but an estimate on a similar basis for 1948 indicates a deficiency of about £28 millions. Neither estimate takes account of any additional cost which would be incurred should effect be given to the recent recommendation of the court of inquiry into wages and hours of work of railwaymen. With regard to the last part of the question I expect to be in a position to make a statement before the recess.

Mr. Davies: Before the Minister makes a statement regarding any action which he proposes to take, will he take into full consideration the desirability of subsidising the railways at the present time, in view of the incidence of an increase in railway charges on the cost of production?

Mr. Barnes: All relevant considerations will be taken into account, but that will not avoid the necessity of making a decision to meet the existing circumstances.

Mr. F. G. Bowles (Nuneaton—Lab.): May I ask the Minister how far the Railway Rates Tribunal, or whatever its other name is now, has been wrong in its estimates?

Mr. Barnes: The Consultative Committee, which functions in the place of the Railway Rates Tribunal, submitted a report to me recently on this matter, and estimates, figures, and information have not been accurate. I am not so very much concerned with what has happened in the past. I am proceeding on the information which I have at my disposal at the moment.

Season Tickets

Mr. John Parker (Dagenham—Lab.) on July 21 asked the Minister of Transport whether the two-thirds season ticket concession for those between 16 and 18 years of age would be extended to all students and trainees over the age of 18 years attending training establishments.

Mr. Alfred Barnes (Minister of Transport): No. With the extension recently announced, the scope of the concession of reduced season ticket rates is already very wide.

Requisitioned Railway Premises

Mr. George Jeger (Winchester—Lab.) on July 15 asked the Minister of Health when the Southern Railway Institute and club sports ground at Dutton Lane, Eastleigh, Hampshire, would be released and restored for its original purposes.

Mr. John Edwards (Parliamentary Secretary to the Ministry of Health) stated in a written answer: The premises were transferred to the Ministry of Health as they were occupied for housing. They will be released as soon as alternative accommodation can be found for the occupants.

Railway Staff Recruitment

Mr. David Renton (Huntingdon—Lib. Nat.) on July 21 asked the Minister of Transport if he would furnish the figures of the following grades of railway staffs of the main-line companies who had joined the service since the withdrawal of the Essential Work Order and up to April 30 last: conciliation staff, workshop staff and clerical and supervisory staff.

Mr. Alfred Barnes, in a written answer, stated: Recruitment of conciliation, workshop and clerical and supervisory staff, up to April 30, for the main-line railways was: conciliation staff, 47,731; workshop staff, 15,529; clerical and supervisory staff, 8,762; total, 72,022.

Manufacture and Repair of Railway Wagons

Mr. P. Piratin (Stepney, Mile End—Com.) on July 21 asked the Minister of Transport, what steps he was taking to ensure the speed-up of the manufacture and repair of railway goods wagons.

Mr. Alfred Barnes: Production and repair of railway wagons are proceeding as rapidly as the available supply of materials allows.

Mr. J. A. Sparks (Acton—Lab.): Could the Minister say whether there is any shortage of skilled staff in this particular work, or is the shortage due mainly to materials?

Mr. Barnes: It is due mainly to materials.

Mr. Piratin: As the Minister now puts

the main problem on the question of supplies, is he satisfied, and can he satisfy the House that, in turn, the Minister of Supply is providing him with all the necessary supplies he needs, for he will recall that one of the main reasons for the fuel crisis was a transport breakdown, and we cannot afford to have such a breakdown again?

Major D. W. T. Bruce (Portsmouth North—Lab.): Will the Minister say to what extent he is using the facilities available to him from the First Lord of the Admiralty?

Mr. Barnes: I assume Major Bruce is referring to the naval dockyards?

Major Bruce: Yes.

Mr. Barnes: They are assisting from time to time in this work, but mainly with regard to locomotives.

Central London Line Services

Mr. P. Piratin (Stepney, Mile End—Com.) on July 21 asked the Minister of Transport whether he was aware of the increased congestion on the Central London Line since its extension east to Leyton and west to Greenford; what additional trains had been put on that line; and what further steps he was taking to relieve the congestion, particularly in the morning and evening rush hours.

Mr. Alfred Barnes: Yes. Additional trains are now being run, seven in the morning peak and three in the evening peak. The service cannot at present be improved further, but by about the end of the year, when certain stages of the works now in hand are completed, it will be possible materially to increase peak capacity.

Mr. Piratin: Is there any reason which the Minister can explain why there are only three trains in the evenings and seven in the mornings, and can he say how soon further steps will be taken to relieve this congestion which I personally get from both ends, as my constituency is at one end of the line and my home at the other?

Mr. Barnes did not reply.

Railway Crossings

Mr. W. McAdam (Salford North—Lab.) on July 7 asked the Minister of Transport if he would state the number of level crossings on public roads for whose working and upkeep the railway companies were responsible.

Mr. Alfred Barnes, in a written answer, stated: The number of level crossings on public roads for whose working and upkeep the railways are responsible is 4,449.

Railway Lost Property Sales

Mr. J. A. Sparks (Acton—Lab.) on July 21 asked the Minister of Transport, if he would give details of property, goods and commodities lost or found on the railways during 1946 by reason of inadequate packing and insufficient address, and the proceeds of salvage sales for that year, giving the information as far as possible on a departmental basis.

Mr. Alfred Barnes: I regret that information in the form desired by Mr. Sparks is not available. The total receipts realised in 1946 from the sale of salvage were £286,786, of which £226,926 was for the goods departments and £59,860 for the passenger departments.

Fittings for New Railway Coaches

Sir Waldron Smithers (Orpington—C.) on July 15 asked the Minister of Transport if his attention had been called to the fact that the Southern Railway had new coaches standing idle waiting for door handles; and if he would remove controls so that these coaches could be put into service.

Mr. George Strauss (Parliamentary Secretary to the Ministry of Transport), in a written answer, stated: I understand that 29 electric and 12 steam-hauled coaches are at present awaiting electric light fittings, door handles, glass and seat frames before they can be put into traffic. It is such shortages of materials for components than necessitate controls.

Cost of Wages Award

Mr. Ernest Davies (Enfield—Lab.) on July 21 asked the Minister of Transport if he would state the estimated cost of the award of the court of inquiry on the claims of the employees of the railway companies; and what action he proposed to take in regard thereto.

Mr. Alfred Barnes: The railway companies estimate that the cost in 1947 and 1948, including the consequential increase in the maintenance charge provided for in the Railway Control Agreement, would be about £22 millions and £37 millions, respectively. In regard to the second part of the question, a decision is in course of being taken and an announcement will be made immediately.

Euston-North Wales Restaurant Car

Mr. Emrys Roberts (Merioneth—L.) on July 21 asked the Minister of Transport whether he would state the reason why, since June last, there was no restaurant car on the 1.30 p.m. train from Euston to North Wales; and whether he would make representations to the railway company to restore that facility in view of its importance to the tourist traffic.

Mr. Alfred Barnes: To provide a dining car would reduce the accommodation which is already heavily loaded. The train leaves at a rather late hour for lunch and passengers for North Wales have half an hour to wait at Crewe during which they can obtain refreshments. The 11.15 a.m. from Euston direct to North Wales has a dining car.

Mr. Roberts: Is the Minister aware that this train is invariably half an hour late at Crewe, that there always used to be a dining car on it, and that L.M.S.R. services to North Wales continue progressively to deteriorate?

Mr. Barnes did not reply.

Breakdown on Metropolitan Line

Mr. C. R. Hobson (Wembley North—Lab.) on July 21 asked the Minister of Transport why no diversion of buses had been made by the L.P.T.B. on the evening of July 2 to deal with passengers who were unable to alight at Preston Road and Northwick Park, Metropolitan line, because of a train breakdown.

Mr. Hobson also asked the Minister of Transport why passengers to Northwick Park and Preston Road had not been informed at Wembley Park that trains scheduled to stop at those stations would not do so because of a breakdown on the evening of July 2.

Mr. Alfred Barnes: The breakdown occurred on the northbound local line from Wembley Park to Harrow. Arrangements were made for passengers for Preston Road and Northwick Park to proceed to Harrow on the fast line and return to those stations on the southbound local line. This was announced by loudspeaker and station staff at Wembley Park on the arrival of each northbound train. The southbound local line was also out of service for 22 minutes, during which time it was arranged for passengers to use the bus services from Harrow to Northwick Park. There is no existing bus service to Preston Road, and the train service was resumed before a special bus service could be improvised.

Mr. Hobson: Is the Minister aware that he has been misinformed, and that for three-quarters of an hour no information was given to any passenger at Wembley Park about the fact that trains were not stopping, and, further, that no attempts were made to put on any buses at Harrow, despite the fact that there are inspectors stationed at Wembley Park for the railway and at Harrow for the buses? Will the Minister see that the Transport Board allows them to use their own initiative without first referring to headquarters?

Mr. Barnes: I am not aware that I have been misinformed. I will certainly check up the further statements of Mr. Hobson.

Creosoting Plant

Mr. V. J. Collins (Taunton—Lab.) on July 7 asked the Minister of Transport to what extent surplus capacity at the railway creosoting plants could be used for the impregnation of electricity and telephone poles; and to what extent it was being used.

Mr. Alfred Barnes: I am informed that the creosoting plants owned by the railways are already fully occupied with the treatment of sleepers, crossing timbers, telegraph poles, cable boxes and other components, all for railway use. In some cases the creosoting of telegraph poles and cable boxes has had to be put out to contract.

Mr. J. E. T. Stanbra

At a luncheon at the Charing Cross Hotel on July 25, Mr. G. L. Darbyshire (a Vice-President of the L.M.S.R.), on behalf of members of the R.C.H. Conferences and other railway officers, made a presentation of a cheque and autograph album to Mr. J. E. T. Stanbra to mark the occasion of his retirement from the position of Secretary to the Railway Clearing House. Mr. Darbyshire referred to the main features of Mr. Stanbra's long and honourable railway career of 46 years, 16 of which had been spent with the L.M.S.R., and stated that the large number of officers present was in itself an eloquent testimony of the esteem in which he was held in railway circles. By his energetic example, his ready helpfulness and efficiency, the R.C.H. had continued under his Secretaryship to uphold its characteristic tradition for efficient service.

The chairmen of various R.C.H. conferences expressed, on behalf of the officers, their sincere appreciation of Mr. Stanbra's zeal, his efficiency, and his unfailing help in all their deliberations, and paid tribute to the work of the R.C.H. under his guidance. Their relations with Mr. Stanbra had always been of the happiest, and he had been a wise counsellor and good companion.

Mr. Stanbra, in reply, thanked the railway officers for their generous gift, and for their tributes to himself, which he accepted as a great compliment to the staff of the R.C.H., who had worked so loyally with him and made easier his task. Mr. Stanbra referred to the valuable experience he had gained during his years with the L.M.S.R., which had served him in good stead later on. He acknowledged with gratitude the help and sustenance he had received from his wife throughout many arduous years, without which he could not have carried on. He was grateful for the many kindnesses shown him by the railway officers over the years, and would take into retirement pleasant memories of the many friends and colleagues with whom he had been so happily associated.

Notes and News

Civil Engineer Required.—A qualified railway civil engineer, age 30 to 40, is required by a London track supply firm. See Official Notices on page 139.

Sectional Engineer and Draughtsman Required.—A sectional engineer, with experience in construction and maintenance of railways and structures, and a draughtsman, preferably with railway experience, are required by a British railway operating in Chile. See Official Notices on page 139.

Edgar Allen & Co. Ltd.—The company showed a profit for the year to March 31 last of £94,514. After providing for tax and other contingencies, and allocating £20,000 to general reserve, as in the preceding year, the ordinary dividend is maintained at 12½ per cent., leaving £45,466 to be carried forward, as compared with £49,954 brought in.

Great Northern Railway Company (Ireland).—The directors of the Great Northern Railway Company (Ireland) have had before them the accounts for the half-year to June 30, 1947, and in consequence of a decline in gross receipts while large additions are being made to the cost of salaries and wages, they have decided to defer consideration of an interim dividend to the guaranteed stockholders until the full accounts for the year are available.

London Passenger Transport Board.—The London Passenger Transport Board announced on July 23, that a payment on account of interest on the London Transport "C" stock for the financial year ending on December 31, 1947, will be made by the Board's registrars, the Bank of England, on August 22, 1947, to all holders of London Transport "C" Stock whose names are registered in the books of the Bank of England at the close of business on July 29, 1947, such payment to be at the rate of 1½ per cent. actual (the same rate as in the previous year), less tax at 9s. in the £.

L.M.S.R. Contracts for Motive-Power Depot Equipment.—The L.M.S.R. announces the placing of the following contracts in connection with schemes of development at motive-power depots:—

With Leonard Fairclough Limited, Adlington, Lancs., for boiler houses in connection with the installation of oil fuelling facilities at Carlisle (Durran Hill), Crewe South, and Shrewsbury (Coleham) Depots.

With Fletcher & Co. Ltd., Forest Road, Mansfield, Notts., for provision of a boiler house for the same purpose at Nuneaton.

With Dowsett Engineering Construction Limited, Tallington, near Stamford, Lincs., for the provision of a 70-ft. turntable and two water cranes at Crewe South Motive-Power Depot (foundations only).

Southern Railway Company. — The directors of the Southern Railway Company announce that the estimated net revenue accruing to the company for the first half of the year is sufficient to pay (less tax at the rate of 9s. in the £) interim dividends of 2½ per cent. on the guaranteed preference and preference stocks, and 2½ per cent. on the preferred ordinary stock, and such interim dividends will be paid accordingly. An interim dividend of 2½ per cent. was paid on the preferred ordinary stock last year. With regard to deferred ordinary stock, the Railways (Southern Group) Amalgamation Scheme, 1922 (Section 9), provides that this stock is entitled to a dividend each year out of any balance of net revenue available after payment of 5 per cent. on the preferred ordinary stock, and that any such dividend on the deferred stock shall be paid annually. In view of the above, an interim dividend on the deferred ordinary stock cannot be paid. The warrants will be posted on August 14 to those proprietors whose names were registered in the books of the company on July 4, on which date the balances were struck.

Precision Tools and Castings at Olympia.—At the Engineering & Marine Exhibition, which opens at Olympia, London, on August 28, the English Steel Corporation Limited, Vickers Works, Sheffield, with its subsidiary firms, Darlington Forge Limited and Taylor Bros. & Co. Ltd., will be showing a selection of heavy forgings and castings, alloy steels, precision and small tools, etc. In the tools section will be included a Vickers adjustable machine reamer and an E.S.C. expanding hand reamer, both fitted with micrometer adjustment of blades; an inserted blade milling cutter with an improved method of locking blades; and an adjustable floating reamer.

Glyn, Mills & Company.—For the year ended June 30, 1947, the statement of assets and liabilities shows total assets of £74,559,749, as against £69,260,747 at the corresponding date a year ago. The figure includes £5,701,677 in coin, bank notes, and balance at the Bank of England; £2,908,928 in cheques in transit, etc.; £156,846,000 in money at call and at short notice; £22,548,568 in investments (including £21,879,740 in British Government securities); £1 342,507 in bills discounted; and £7,000,000 in treasury deposit receipts. These items together represent 81·91 per cent. of the deposits, etc., of £67,577,322. Advances to customers and other accounts total £13,444,642, as against £13,757,472 a year ago.

Display of Vickers-Armstrongs Products.—The various works of Vickers-Armstrongs Limited are fully equipped for carrying out all kinds of heavy and light engineering, including shipbuilding and aircraft production; and visitors to the Engineering & Marine Exhibition at Olympia, London, which will be held from August 28 to September 13, will have an opportunity of seeing a representative selection of these products, either exhibited on the stand or illustrated. They will include Pyramid hardness testing machines, variable delivery pressure pumps, condensing plant and auxiliaries, cranes, bridge operating machinery, traversers, etc., and VSG variable speed gears and pumps.

United Railways of the Havana.—The directors of the United Railways of the Havana & Regla Warehouses Limited have announced a new arrangement to take the place of the moratorium scheme which was withdrawn in 1945 after receiving the approval of the Court. Under the new scheme, which is again a temporary one, the company's net profits will continue for three years from June 30 to be divided between the three groups of debenture stockholders in the present proportion of 70 per cent. to the United group, 20 per cent. to the Cuban group, and 10 per cent. to the Western group. In addition, a small cash payment will be made to the three senior classes of stockholders as soon as the scheme comes into force. The debenture stockholders' committee may extend these arrangements for another year, but, on the other hand, the company may produce a permanent capital reorganisation scheme before the present one expires. Meetings of holders of the various debenture stocks of the company were held to consider the proposals on July 8.

Metropolitan-Vickers District Office Managers.—Mr. H. Paterson, Manager of the Newcastle-on-Tyne Office of the

British and Irish Railway Stocks and Shares

Stocks	Highest 1946	Lowest 1946	Prices July 29, 1947	Prices Rise Fall
G.W.R.				
Cons. Ord.	61½	54½	55½	—
5% Con. Pref.	126½	107	116½	— 2
5% Red. Pref. (1950)	106½	102½	100½	—
5% Rt. Charge	140½	122½	129½	— 1
5% Cons. Guar.	137½	118½	128½	— 1
4% Deb.	129½	106	119	— 1
4½% Deb.	129½	107	119½	— 1
4½% Deb.	130½	114	121½	—
5% Deb.	142½	125	131½	—
2½% Deb.	95½	81½	88½	— 1
L.M.S.R.				
Ord.	30½	26½	27½	—
4% Pref. (1923)	64	52½	57½	—
4% Pref.	86	75½	78	— ½
5% Red. Pref. (1955)	105½	97	95½	— 1
4% Guar.	108½	100	99½	— ½
4% Deb.	120	103	109	— 1
5% Red. Deb. (1952)	108½	105½	101½	—
L.N.E.R.				
5% Pref. Ord.	7	5	6⅜	— ⅛
Def. Ord.	3½	2½	3½	—
4% First Pref.	59½	50½	52 xd	— ½
4% Second Pref.	29½	25¾	26 xd	— ½
5% Red. Pref. (1955)	104	97	94½xd	— 1
4% First Guar.	107	98	97½xd	— 1
4% Second Guar.	101	90	91½xd	— 1
3% Deb.	104	87½	95	— 1½
4% Deb.	119½	102½	108½	— 1½
4½% Sinking Fund Red. Deb.	107½	101½	100½	—
SOUTHERN				
Pref. Ord.	79½	70	71	— ½
Def. Ord.	24	19½	22½	—
5% Pref.	125½	107	115½	— 2
5% Red. Pref. (1964)	115½	106½	108½	—
5% Guar. Pref.	137½	119	128½	— 1
5% Red. Guar. Pref. (1957)	115½	107½	108½	—
4% Deb.	129½	105½	119	— 1
5% Deb.	139½	125½	129½	— 2
4% Red. Deb. (1962-67)	113½	104½	105½	— 1
4% Red. Deb. (1970-80)	115½	104½	106½	— 1
FORTH BRIDGE				
4% Deb.	109	103	100½	—
4% Guar.	105	102	97½	—
L.P.T.B.				
4½ "A"	133½	120½	122½	— 1
5% "A"	142½	130½	131½	— 1
3% Guar. (1967-72)	108	98½	103	—
5% "B"	128½	117½	117½	— 2
"C"	64½	56½	61½	—
MERSEY				
Ord.	34	30	32½	—
3% Perp. Pref.	76	69	70½	—
4% Perp. Deb.	117½	103	109xd	—
3% Perp. Deb.	98	81	90½xd	—
IRELAND*				
BELFAST & C.D.				
Ord.	8⅛	6	7½	—
G. NORTHERN				
Ord.	41½	30½	29	—
Pref.	63½	52	46	—
Guar.	97½	78½	83	—
Deb.	107	97½	98½	—
IRISH TRANSPORT				
Common	19/2½	16/9	14/1½	— -/4½
3% Deb.	107	100	101	—

* Latest available quotation

OFFICIAL NOTICES

Metropolitan-Vickers Electrical Co. Ltd., and Mr. C. Petersen, Manager of the company's Manchester Office, have recently relinquished their duties, and have been succeeded, respectively, by Mr. A. J. Crawford and Mr. J. B. Hartley. Both Mr. Paterson and Mr. Petersen will remain available for consultation until the end of the year.

L.M.S.R. (Extension of Time) Order.—The Minister of Transport has made the London Midland & Scottish Railway (Extension of Time) Order, 1947 (S.R. & O. 1947 No. 1361). Copies may be obtained from the Clerk of Stationery, Ministry of Transport, Berkeley Square House, Berkeley Square, London, W.1, price 1d. (post free, 2d.).

A "Falaise" Poster.—The new cross-Channel steamer *Falaise* is the subject of a quad-royal poster by Mr. Norman Wilkinson, and issued by the Southern Railway. The *Falaise* re-opened the Southampton-St. Malo service of the Southern Railway on July 14, and was dealt with in an article on page 100 of our July 25 issue.

Collision on Swiss Railway.—Ten persons were killed and over 30 injured when two trains collided on June 26 in a cutting on the single-track electric line to Einsiedeln of the South Eastern Railway. One of the trains was a special conveying scores of worshippers to a service in the monastery church at Einsiedeln. Because of the curve in the cutting, the two engine drivers, both of whom were killed, could not have seen the danger until the last moment. The two locomotives and the coaches immediately behind them were telescoped.

Crompton Parkinson: Change of Address.—As from August 5, the firm of Crompton Parkinson Limited will be occupying Astor House, Aldwych, London, W.C.2, of which premises a 35-year lease was acquired some months ago. The Electric Vehicle Division, however, will remain at Electra House, Victoria Embankment, London W.C.2 although the telephone number (Chancery 3333), telegraphic address (Crompark, Estrand, London), and cable address (Crompark, London) will be the same as those for Astor House.

L.M.S.R. Derailment Inquiry.—On July 25 a Ministry of Transport inquiry into the derailment of an L.M.S.R. Manchester and Liverpool express near Polesworth on July 21, was opened at Rugby by Lt.-Colonel G. R. S. Wilson. The derailment was reported in our July 25 issue. Evidence was given by an inspector that a variation in gauge between ½-in. and ¾-in. had been found a month ago at the point where the derailment took place. A ganger said that part of the track had been relaid, and had not settled down after the frosty weather. The driver of the express stated that the train was running at about 60 m.p.h. before the derailment. On feeling a severe roll develop, he shut the regulator and applied the brake. The engine seemed to steady itself, but after a short distance he felt it coming off the road. The inquiry was closed, and Lt.-Colonel Wilson's report will be published in due course.

L.N.E.R. Electric Lamp Order.—A contract for Cosmos and Metrovick electric lamps for a further period of 12 months has been placed by the L.N.E.R. with the Metropolitan-Vickers Electrical Co. Ltd.

Machine Tool Exhibition.—The Machine Tool Trades Association will hold a Machine Tool & Engineering Exhibition at Olympia late this month. It will be the first exhibition of its kind to be held in London since the M.T.T.A. Exhibition at Olympia of 1934.

Wellworthy Piston Rings Limited.—At a board meeting on July 14, the following interim dividends were declared: a preference dividend at the rate of 6 per cent. per annum for the 4 months from March 1 to June 30, 1947; and an ordinary dividend at the rate of 15 per cent. per annum for the 11 months to June 30, 1947 (13¾ per cent. actual, less income tax).

Greenwich Metal Works Exhibit.—We are informed that G. A. Harvey & Co. (London) Ltd. will be among the firms represented at the Engineering & Marine Exhibition at Olympia from August 28 to September 13. This firm will be showing an extensive range of Harco perforated metals, woven wire cloth in all meshes and gauges for vibrator screens, and wirework of various designs for industrial purposes. Attention will be called, also, to the wide range of pressure vessels made by this firm at its Greenwich works.

L.N.E.R. Express Service for Steel Strip.—A new service of express freight trains direct from the Darlington rolling mills to the works of the Crittall Manufacturing Co. Ltd., of Braintree and Witham, Essex, was inaugurated by the L.N.E.R. on July 2. The wagons have been adapted specially for fast running by being fitted with brakes; 100 in all have been so treated, and it is intended to run them weekly in trains of 30 on the outward journey. The first train left Darlington at 11.30 a.m., and was due at Witham the following morning, representing a great speeding up in transport compared with sending consignments at the rate of about 4 or 5 wagons a day, when they took at least 3 or 4 days to get to destination. With the new service, the trains run as a complete unit from start to finish. The traffic conveyed consists of metal strips from 17 to 20 ft. long, and averages from 12 to 18 tons per wagon. The inaugural train consisted of 30 wagons, with a net weight of 355 tons.

Chesapeake & Ohio and Pere Marquette Merger.—An agreement of consolidation between the Pere Marquette and the Chesapeake & Ohio Railroads was signed on June 6 by Mr. Robert J. Bowman, President of the new combined system (and formerly President of the C. & O.). The merger of the two railways, which was discussed in an editorial article in our June 27 issue, therefore became effective on that date.

Assam Railways & Trading Co. Ltd.—The report of the company for the year ended March 31, 1946, records that the railway undertaking was purchased by the Government of India on March 31, 1945. The general trading profits were lower than in the preceding year, and the total sum available for distribution is £76,881. The directors recommend placing £30,000 to reserve for development, and the payment of a dividend of 5 per cent., less income tax, on the "B" stock.

Swiss Railway Centenary Celebrations.—Celebrations are being held at Zurich and Baden on August 9 to commemorate the opening of the Zurich-Baden Railway 100 years ago. Guests of the Swiss Federated Railways will travel by special train from Berne to Zurich, where, after an official luncheon, they will make a trip over the original line to Baden. A pageant of transport is being held at Baden, and excursions will be made to Otelfingen in the centenary train, which is a reproduction of the first train on the Zurich-Baden Railway. The celebrations will conclude with an official dinner at Baden.

Demonstration of Marconi Mobile Radio Equipment.—A demonstration was given on July 25 of a new mobile V.H.F. radio installation designed by Marconi's Wireless Telegraph Co. Ltd., orders for which have been received by the company from the Home Office for the equipment of mobile police units. The apparatus is equally applicable to railway purposes, such as communication between shunting engines and fixed stations in marshalling yards, or it may be used in tugs and other vessels operating in harbours. In the demonstration of July 25, communication was maintained with a car travelling through London from Kingsway to Hyde Park. A steady and fully intelligible signal was received throughout, with noteworthy freedom from interference by ignition or other noises, and a high quality of reproduction.

Railway Stock Market

Beginning with a persistent selling of British Funds, which brought prices steadily lower until long- and medium-dated stocks were now virtually on a 3 per cent. yield basis (compared with 2½ per cent. recently), liquidation gradually extended to other sections of markets. With the return on British Funds the governing factor, the yield bases of all other classes of securities appear to be in process of adjustment. Nevertheless, falls in prices in many cases have been out of proportion to the amount of selling, which generally has not been large, although the effect of moderate selling was marked because buyers were again showing considerable caution. The latter is understandable in view of the rapid fall in British Funds, which so far has not been checked by the appearance of official support for gilt-edged although it had been generally assumed this would be forthcoming when 2½ per cent. Consols and 2½ per cent. Treasury bonus dipped to 90.

Talk in the City of a political crisis, of a coalition government, or a general election has accompanied the fall in values, there being widespread fears of further "cuts" in dollar imports unless the American plan for aid to Europe can be accelerated. Nevertheless, should official support for gilt-edged reappear, there is little doubt that prices in all sections would stage a rapid recovery; but whether this could be held would depend on developments in home and international political affairs.

The behaviour of British Funds is of particular importance to holders of home railway stocks, because with British Funds on their present yield basis, it would be impossible, in view of the stipulations of the Transport Bill in regard to British Transport stock, for the latter to carry interest at only 2½ per cent. Consequently there are increasing hopes of 3 per cent. interest on this stock, and all factors considered, home rails must be regarded as having considerable attractions as a hedge against the possibility of any further fall in British Funds. They have not been immune from the present reactionary trend of markets, but declines have been relatively moderate and fractional in most cases, with institutional buyers about for prior charge stocks.

With the protection afforded by the "take-over" prices and hopefulness as to the present prospect of final dividend payments in respect of the current year, home railway junior stocks must be regarded as presenting one of the more attractive investments-cum-speculations available in the market at the present time. Great Western ordinary, for instance, is now 55, or 4 1/16 below the "take-over" price, and L.M.S.R. at 27½ is two points below the "take-over," and L.N.E.R. second preference, now 26, has a "take-over" price of 29½. In the case of Southern deferred the "take-over" is 24 and the current price 22¼. London Transport "C," which this week has eased to 61, is now as much as 6 3/16 below the "take-over" price of 67 7/16. Moreover, in regard to Southern preferred the current level of 70⅛ compares with the "take-over" price of 77⅛.

Market talk that iron and steel nationalisation may have to be abandoned led to relative steadiness in iron and steel shares, some of the leaders such as Dorman Long, United Steel, and Colvilles showing declines not exceeding more than a few pence. Iron and steel shares were already on a high yield basis because of the fear of nationalisation, and it continues to be assumed in many quarters that in the event of nationalisation, a fair compensation basis for shareholders would justify prices well above current levels.

Steel Company of Wales debentures, after touching par, have again eased to ¼ discount. Suggestions that iron and steel nationalisation may have to be abandoned has led to talk that nationalisation of the railways may perhaps be postponed, but there is little on which to base suggestions of this kind, which in a large measure appear to be little else than wishful thinking. There is, of course, the possibility that nationalisation projects would have to be modified or abandoned in the event of a crisis developing and necessitating a coalition government.

As was to be expected the foreign railway market has not been immune from the trend prevailing in other sections of markets, but declines in Argentine rails were mostly fractional on balance, and there was little selling, sentiment being influenced by the big support accorded the "take-over" terms at the meetings. Moreover there has been institutional buying of debentures and also senior preference stocks, which are regarded as attractive short term holdings and a safe refuge for money should the present unsettled market conditions persist.

Central Uruguay stocks receded following recent gains. A small feature was a rise to 7s. in Manila Railway preference. Brazilian railway stocks were mostly lower. The freer dealing now permitted in dollar stocks has drawn increased attention to Canadian Pacifics, which were favoured on yield considerations.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffic for week: Total this year	Traffic for week: Inc. or dec. compared with 1945/46	No. of Week	Aggregate traffics to date: Totals 1946/7	Aggregate traffics to date: Totals 1945/6	Aggregate traffics to date: Increase or decrease	Shares or Stock	Prices: Highest 1946	Prices: Lowest 1946	Prices: July 29, 1947
				£	£		£	£	£				
South & Central America	Antofagasta	834	20.7.47	43,930	+ 11,320	29	1,155,140	931,760	+ 223,380	Ord. Stk.	11	10½	11½
	Arg. N.E.	753	12.7.47	ps.313,900	−ps. 3,100	2	ps.494,700	ps.568,000	− ps.73,300	,,	17	5	11
	Bolivar	174	June, 1947	$109,985	+ $16,762	26	$674,863	$652,358	+ $22,505	6 p.c. Deb.	6½	5½	16½
	Brazil	—	—	—	—	—	—	—	—	Bonds	30	26	34
	B.A. Pacific	2,771	19.7.47	ps.2,450,000	+ps.200,000	3	ps.6,275,000	ps.6,488,000	− ps.213,000	Ord. Stk.	8½	5½	11
	B.A.G.S.	5,080	19.7.47	ps.3,237,000	−ps.368,000	3	ps.9,130,000	ps.10,247,000	− ps.1,117,000	Ord. Stk.	16	10½	17½
	B.A. Western	1,924	19.7.47	ps.1,307,000	+ps.132,000	3	ps.3,645,000	ps.3,423,000	+ ps.222,000	,,	19	9½	23
	Cent. Argentine	3,700	19.7.47	ps.3,177,555	+ps.12,155	3	ps.8,565,055	ps.9,163,115	− ps.598,060	,,	10½	7½	18½
	Do.	—	—	—	—	—	—	—	—	Dfd.	6	4	14
	Cent. Uruguay	970	19.7.47	32,577	− 725	3	99,350	105,562	− 6,212	Ord. Stk.	8½	3½	19½
	Costa Rica	262	Apr., 1947	33,865	− 83	44	286,765	286,820	− 55	Stk.	15	12	11½
	Dorada	70	June, 1947	29,200	− 6,400	26	179,800	186,275	− 6,475	1 Mt Deb.	102½	99½	108
	Entre Rios	808	12.7.47	ps.419,600	− ps.7,000	2	ps.697,200	ps.765,500	− ps. 68,300	Ord. Stk.	9	5½	11
	G.W. of Brazil	1,030	19.7.47	26,900	+ 2,600	29	930,500	809,700	+ 120,800	Ord. Stk.	26/6	20/−	3½
	Inter. Ctl. Amer.	794	May, 1947	$1,150,433	+ $174,294	21	$5,900,779	$4,854,614	+ $1,046,165	—	—	—	—
	La Guaira	22¾	June, 1947	$111,621	+ $1,934	26	$684,382	$693,542	− $9,160	5 p.c. Deb.	70	58	86
	Leopoldina	1,918	19.7.47	72,212	+ 10,077	29	1,864,728	1,616,408	+ 248,320	Ord. Stk.	5	3½	11½
	Mexican	483	31.5.47	ps.1,464,000	+ps.459,100	22	ps.7,706,200	ps.13,441,600	+ ps.5,220,000	Ord. Stk.	1¾	¾	¾
	Midland Uruguay	319	June, 1947	17,386	− 2,592	52	203,575	224,254	− 20,679	—	—	—	—
	Nitrate	382	15.7.47	11,900	+ 3,245	28	126,200	119,287	+ 6,913	Ord. Sh.	83/9	71/3	80/-xd
	N.W. of Uruguay	113	June, 1947	5,359	+ 304	52	67,160	66,419	+ 741	—	—	—	—
	Paraguay Cent.	274	18.7.47	G48,123	− G11,937	3	G127,752	G168,619	− G40,867	Pr.Li.Stk.	78½	60	47½
	Peru Corp.	1,059	June, 1947	148,249	+ 10,696	52	1,825,220	1,675,574	+ 149,646	Pref.	16½	8¾	10
	Salvador	100	Apr., 1947	c145,000	+ c6,300	44	c1,483,000	c1,393,700	+ c89,300	—	—	—	—
	San Paulo	153½	—	—	—	—	—	—	—	Ord. Stk.	119½	52½	165½
	Taltal	156	June, 1947	6,205	+ 2,180	52	50,920	41,020	+ 9,900	Ord. Sh.	22/6	15/3	17/6
	United of Havana	1,301	20.7.47	63,175	+ 1,235	3	174,112	163,060	+ 11,052	Ord. Stk.	2	1¾	2½
	Uruguay Northern	73	June, 1947	1,176	− 43	52	16,681	20,642	− 3,961	—	—	—	—
Canada	Canadian National	23,535	May, 1947	9,638,500	+1,942,500	21	43,71,250	38,638,500	+ 5,073,750	—	—	—	—
	Canadian Pacific	17,037	21.7.47	1,486,750	+ 195,000	29	42,222,750	38,797,750	+ 3,425,000	Ord. Stk.	25½	16¼	18¼
Various	Barsi Light†	202	June, 1947	28,365	+ 9,435	13	80,235	73,395	+ 6,840	Ord. Stk.	123½	111	112½
	Beira	204	Apr., 1947	80,157	+ 4,547	29	624,106	508,964	+ 115,142	—	—	—	—
	Egyptian Delta	607	10.6.47	15,352	− 940	10	115,725	115,171	+ 554	Prf. Sh.	9¼	5	6½
	Manila	—	—	—	—	—	—	—	—	B. Deb.	75	60	71½
	Mid. of W. Australia	277	May, 1947	18,688	− 1,353	48	185,999	192,189	− 6,190	Inc. Deb.	85	70	75
	Nigeria	1,900	May, 1947	376,824	− 32,267	9	731,208	761,991	− 30,783	—	—	—	—
	Rhodesia	2,445	May, 1947	591,473	+ 42,592	33	4,408,697	4,066,790	+ 341,907	—	—	—	—
	South African	13,323	14.6.47	1,220,772	+ 194,871	11	13,200,247	11,628,707	+ 1,571,540	—	—	—	—
	Victoria	4,774	Mar., 1947	1,241,516	− 68,175	39	—	—	—	—	—	—	—

† Receipts are calculated @ 1s. 6d. to the rupee